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Artificial Intelligence for Soldiers 2026: Strategic Broadening Seminar for Army Staff Officers

by Mark A. Tschopp, Reginald L. Hobbs, and Andrew Miller

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DEVCOM Army Research Laboratory

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14. ABSTRACT This special report documents the Spring 2026 session of the Artificial Intelligence for Soldiers strategic broadening seminar, the third annual iteration of a 1-week, in-person course delivered by DEVCOM Army Research Laboratory to provide mid-career Army personnel with a practical, non-coding foundation in artificial intelligence (AI) and machine learning (ML) for military decision-making. Thirty-one officers, warrant officers, and noncommissioned officers from nine major commands completed instruction, demonstrations, laboratory engagements, and team capstone projects applying AI/ML concepts to military challenges. Among post-course survey respondents, mean ratings across 10 evaluation statements ranged from 4.56 to 4.89 on a 5-point scale, with no negative ratings. Qualitative feedback indicated expanded understanding of AI capabilities, limitations, responsible use, and job-relevant applications. The seminar equips Army leaders to recognize and evaluate AI-enabled opportunities, engage technical experts more effectively, and bring AI literacy back to their formations.					
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We gratefully acknowledge the Army senior leaders and subject-matter experts who gave their time to the Spring 2026 session: LTC James Kim (HQDA G-3/5/7), who opened the course; MG Stephanie Ahern (HQDA G-3/5/7), who delivered the Day 1 and Day 5 keynotes and engaged directly with participants throughout the week, including their capstone presentations; COL Melissa Johnson (MILDEP, ARL); Mr. Dietrich Wiegmann (Acting Director, Army Research Directorate, ARL); and LTC Eric Sturzinger (Army Artificial Intelligence Center), who both delivered a keynote and joined the Day 4 panel. We also thank Mr. Joe Alexander (Deputy Director, ARL), who conducted the graduation ceremony, presenting each participant with a certificate and an ARL challenge coin.

We thank the Day 4 “Soldiers + AI” panel (Mr. Brian Gollsneider [moderator, ARL], LTC Eric Sturzinger, CW4 Reggie Oliver, and MAJ Andrew Miller) and the demonstration leads who hosted participants at the Robotics Research Collaboration Campus (R2C2) and in ARL’s Adelphi laboratories: Dr. Rajneesh Singh (R2C2 coordination lead), Dr. Brandon Perelman and Dr. Leah Enders (R2C2 DIESL demonstration), and the broader R2C2 robotics research team who supported the site visit (Dr. Derrick Asher, Mr. Philip Osteen, Ms. Christa Robinson, et al.); Dr. Jade Freeman (mixed-reality demonstration); and Dr. Claire Bonial, Dr. Adrienne Raglin, Dr. Stephanie Lukin, et al. (natural language processing demonstrations).

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Executive Summary

The “Artificial Intelligence for Soldiers” strategic broadening seminar is a 1-week, in-person course delivered by the DEVCOM Army Research Laboratory (ARL) to mid-career Army staff officers, providing a practical, non-coding introduction to artificial intelligence (AI) and machine learning (ML) oriented to military decision-making. This report documents the course’s third year (2026), specifically the Spring 2026 session.

The Spring 2026 session ran March 16–20, 2026, at the Adelphi Laboratory Center (ALC), with an off-site day at the Robotics Research Collaboration Campus (R2C2), Graces Quarters, Middle River, Maryland. Thirty-one Army personnel (majors, lieutenant colonels, company-grade officers, warrant officers, and senior noncommissioned officers) from nine major Army commands attended. The curriculum followed the program’s established structure: foundational AI and ML instruction (Days 1–2), AI and robotics with a hands-on R2C2 demonstration (Day 3), natural language processing with a Soldier panel and ARL laboratory tours (Day 4), and team capstone presentations culminating in a graduation ceremony (Day 5). Army senior leaders (including MG Stephanie Ahern, COL Melissa Johnson, and Mr. Dietrich Wiegmann) engaged directly with participants via keynotes throughout the week, and ARL leadership presided over the graduation ceremony.

Post-course feedback was overwhelmingly positive: on a 5-point post-course survey, mean scores ranged from 4.56 to 4.89 across 10 evaluation statements, and no respondent selected Disagree or Strongly Disagree on any item; all respondents agreed or strongly agreed that the instructors were enthusiastic and knowledgeable and that the course materials were well organized and effectively explained (Section 3). One participant, describing a professional background that already included AI/ML applications, said of the course, “[It was] the most accessible and detailed explanation I have ever received.”

This summary highlights the course’s design and delivery, the composition of its third cohort, and proposed next steps for the program as it moves toward a sustained two-session annual cadence.

1. Introduction

Future military capability has increasingly been coupled to advances in artificial intelligence (AI) and machine learning (ML). In fact, the Department of War (DoW) advocates that AI is not just a specialized or occasional tool, but rather “AI should be in your battle rhythm every single day; it should be your teammate.”¹ The department’s January 2026 AI strategy continues with the message that the force should become an “AI-first” warfighting organization, i.e., the military needs to re-imagine how AI technologies alter existing processes, tactics, techniques, and procedures.² This builds upon prior DoW strategy (e.g., the 2023 Data, Analytics, and AI Adoption Strategy) that identifies expanding digital talent (including building AI literacy among non-technical personnel) as one of its core lines of effort.³ Additionally, within the Department of the Army, senior leaders have repeatedly called for AI literacy across the force, not only among technical specialists but among the staff officers who plan operations, allocate resources, and advise commanders. The ability of officers to collaborate with AI experts and apply AI concepts operationally is “extremely essential to the Army mission.”⁴ Within this context, the “Artificial Intelligence for Soldiers” strategic broadening course was created by the U.S. Army Combat Capabilities Development Command (DEVCOM) Army Research Laboratory (ARL) back in 2024 to answer that call directly: a 1-week, in-person course that gives mid-career Army staff officers a working, non-coding understanding of AI and machine learning to improve how AI is integrated with their domain expertise and, consequently, how it is integrated within their respective units.

The course completed its inaugural year in 2024 as a 2-week session, documented in the Year 1 report.⁵ Year 2 (2025) condensed the format to a single 1-week session while sustaining the same learning objectives; that year is documented in the Year 2 report⁶ and covered within featured Jane’s *International Defense Review* article.⁷ Year 3 (2026) was planned as two 1-week sessions, Spring and Summer, which would have doubled the program’s annual reach for the first time; the Summer session was subsequently canceled, so this report documents the Spring 2026 session only.

1.1 Program Overview

The Artificial Intelligence for Soldiers course targets mid-career Army staff officers (noncommissioned officers [NCOs], warrant officers, and commissioned officers) nominated by their headquarters for advanced learning about the fundamental and

applied aspects of AI and ML, with no previous coding or ML background required. The course is capped at approximately 32 participants per session to preserve the discussion-based, cohort-oriented instructional model. Participant travel and per diem are funded by Headquarters, Department of the Army (HQDA), G-3/5/7, which also manages the competitive selection process of these officers for each session.

The objective of the course is to do the following:

- 1) Enable Army officers to provide senior leaders with data-driven decision-making abilities, allowing them to seize competitive advantages over adversaries.
- 2) Enable officers to understand and direct approaches for leveraging data and algorithms to achieve military goals.
- 3) Increase officers' ability to identify novel AI/ML applications for business and strategic decision-making.
- 4) Enable officers to provide real-world perspectives to ARL leaders on problems where AI could yield transformational change.

The course is delivered in person at ARL's Adelphi Laboratory Center (ALC), Adelphi, Maryland, over 5 days, and includes an off-site day at the Robotics Research Collaboration Campus (R2C2), Graces Quarters, Middle River, Maryland, for hands-on robotics and autonomy demonstrations. Each cohort completes a team capstone project, applying AI/ML concepts to a military problem of the team's choosing, and the week concludes with a graduation ceremony presided over by ARL senior leaders. Public Affairs coverage featuring the course in "Keeping It Green" is reproduced in Appendix [A](#).

1.2 Spring 2026 Session

The Spring 2026 session ran March 16–20, 2026, following the program's established 1-week format. Thirty-one Army personnel from nine major commands attended (Section [2](#)). The session followed the standard 5-day curriculum (foundational AI and ML instruction, AI and robotics with a hands-on R2C2 demonstration, natural language processing with a Soldier panel and ARL laboratory tours, and team capstone presentations) and included keynote engagements from Army senior leaders, most notably MG Stephanie Ahern (HQDA G-3/5/7), who delivered the Day 1 and Day 5 keynotes and engaged directly with the cohort throughout the week.

The remainder of this report describes the course’s design and delivery (Section 2), participant feedback (Section 3), and impact and future directions for the program (Section 4), followed by a conclusion (Section 5).*

2. Course Design and Delivery

2.1 Curriculum and Delivery

The Spring 2026 session followed the program’s established 5-day curriculum, unchanged in structure from the prior year.⁶ Each day paired a keynote from an Army senior leader or subject-matter expert with instructional modules led by the course’s two lead instructors (Dr. Hobbs, Dr. Tschopp), augmented in 2026 by a co-instructor MILDEP liaison (MAJ Miller). Figure 1 summarizes the planned structure.

Five-Day Curriculum Overview, Artificial Intelligence for Soldiers 2026

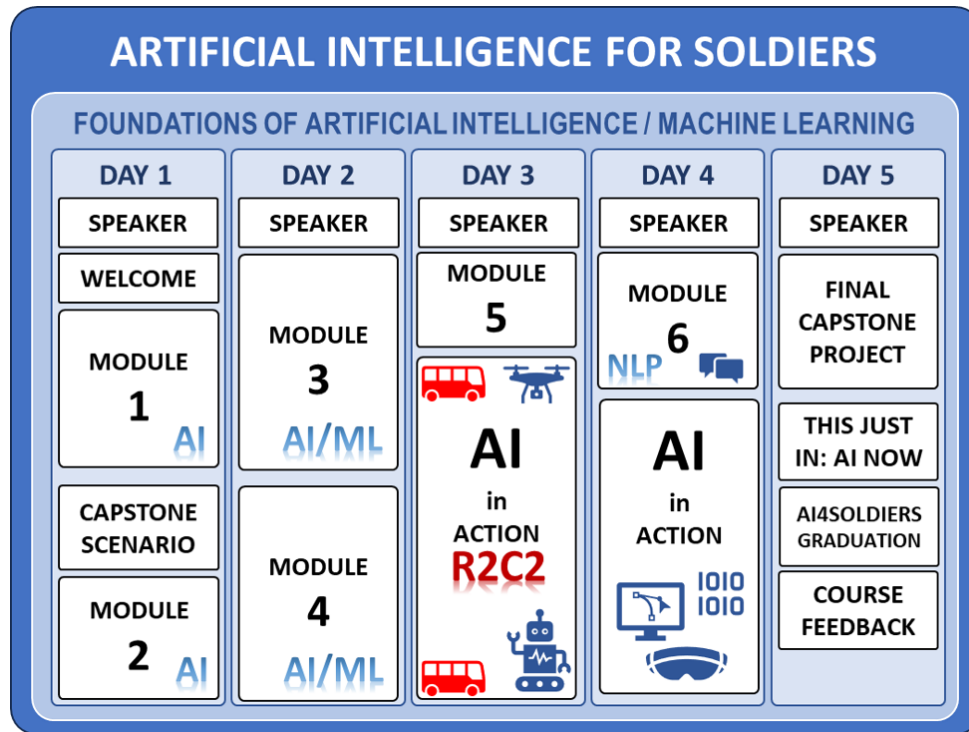


Figure 1. Planned 5-day curriculum structure for the Artificial Intelligence for Soldiers 2026 course.

*During the preparation of this report, the authors used large language models (e.g., Google Gemini-3.1-Pro, OpenAI GPT-5.1) as a writing aid for editing, summarizing, and rephrasing text. The authors subsequently reviewed and edited all output and take full responsibility for the content of the published report.

The course was separated into multiple modules throughout the week. Module content builds cumulatively across the week: Modules 1–2 establish what AI is (and is not), distinguishing handcrafted-knowledge AI from ML and surveying the drivers of recent AI performance gains; Modules 3–4 introduce ML algorithm families (supervised, unsupervised, reinforcement), training-data requirements, and neural network fundamentals; Module 5 extends these concepts to robotics and autonomous systems ahead of the R2C2 site visit; and Module 6 introduces natural language processing (NLP), including tokenization, embeddings, and large language models, ahead of the Day 4 Soldier panel. Each module is co-led by the course’s lead and co-instructors, with the 2026 co-instructor, MAJ Andrew Miller, contributing an active-duty officer’s perspective.

The Spring 2026 session delivered this curriculum largely as planned. The session ran March 16–20, 2026, at ALC, with sessions held in the Zahl Seminar Room (Days 1–4) and the ARL Director’s Conference Room (Day 5). The detailed hour-by-hour planning schedule for the week is provided in Appendix B, and the comprehensive course information packet supplied to participants ahead of the course is shown in Appendix C. A complete directory of keynotes, instructors, panelists, and lab leads is provided in Appendix D.

Army senior leaders engaged directly with the cohort throughout the week: LTC James Kim (HQDA G-3/5/7) opened the course on Day 1 morning, followed by a Day 1 afternoon keynote from MG Stephanie Ahern (HQDA G-3/5/7), delivered virtually; COL Melissa Johnson (MILDEP, ARL) delivered the Day 2 keynote; Mr. Dietrich Wiegmann (Acting Director, Army Research Directorate, ARL) delivered the Day 3 keynote; and LTC Eric Sturzinger (Army Artificial Intelligence Center, AI2C) delivered the Day 4 keynote and joined the Day 4 panel. MG Ahern returned in person on Day 5 to deliver the closing keynote, engage with participants, and attend the capstone presentations, departing ahead of the graduation ceremony. Mr. Joe Alexander (Deputy Director, ARL) conducted the graduation ceremony, presenting each participant with a certificate and an ARL challenge coin. Mr. Alexander thanked participants for their service to the Army and for traveling to ARL to learn about AI, and encouraged them to serve as a link between AI research and operational application within their units. A sample certificate of completion presented at graduation is shown in Appendix E.

The course also included interactions with ARL scientists and AI science demonstrations. On Day 3, the cohort traveled by bus to R2C2 at Graces Quarters for hands-on robotics and autonomy demonstrations (led by Dr. Derrick Asher, Mr. Philip Os-teen, et al.) and the DIESL program (Distributed Information for Enhanced Squad Lethality, led by Dr. Brandon Perelman and Dr. Leah Enders). On Day 4, following morning NLP instruction, the cohort took part in the “Soldiers + AI” panel (moderated by Mr. Brian Gollsneider [ARL], with panelists LTC Eric Sturzinger [AI2C], CW4 Reggie Oliver [CPE Aviation], and MAJ Andrew Miller [ARL]), followed by lab tours of ARL’s Emmerman Lab and Language Lab, including mixed-reality and NLP demonstrations.

2.2 Neural Network Practice Exercise (Excel)

New for Spring 2026, Module 4 (Neural Networks) incorporated a set of hands-on practice exercises built entirely in Excel, letting participants step through the arithmetic underlying a feedforward neural network’s forward pass by hand rather than treating it as an abstraction. This combination of utilizing Excel to demonstrate the underlying algorithms helps to simplify the mechanics of the neural network black box, as has been previously shown in an ARL-led ML course.^{8,9} Figure 2 reproduces one such exercise: a four-input network with three rectified linear unit (ReLU) hidden layers of six, four, and two nodes (labeled “6-4-2-1” in the exercise, following the convention of naming the hidden and output layer sizes) feeding a single sigmoid output node. Working from a set of four numeric input records, participants filled in each layer’s weight matrix and bias vector, computed the weighted sum $W \cdot X + b$, applied the ReLU activation at each hidden layer, and applied the sigmoid function at the output layer, using a provided $z \rightarrow f(z)$ lookup table and reference plots of both activation functions.

Working the arithmetic by hand, cell by cell, gave participants (many with no prior linear algebra or programming background) a concrete, correct mental model of what a neural network actually computes at inference time, and anchored the surrounding lecture material on forward propagation, the loss function computed at the output layer, and how that loss subsequently drives backpropagation and parameter updates during training. The exercise generated extended in-class discussion about how neural networks arrive at a response, and it was one of the most consistently cited highlights of the course among tactile learners in post-course feedback (Section 3).

Neural Network Practice Exercise, Module 4 (Excel)

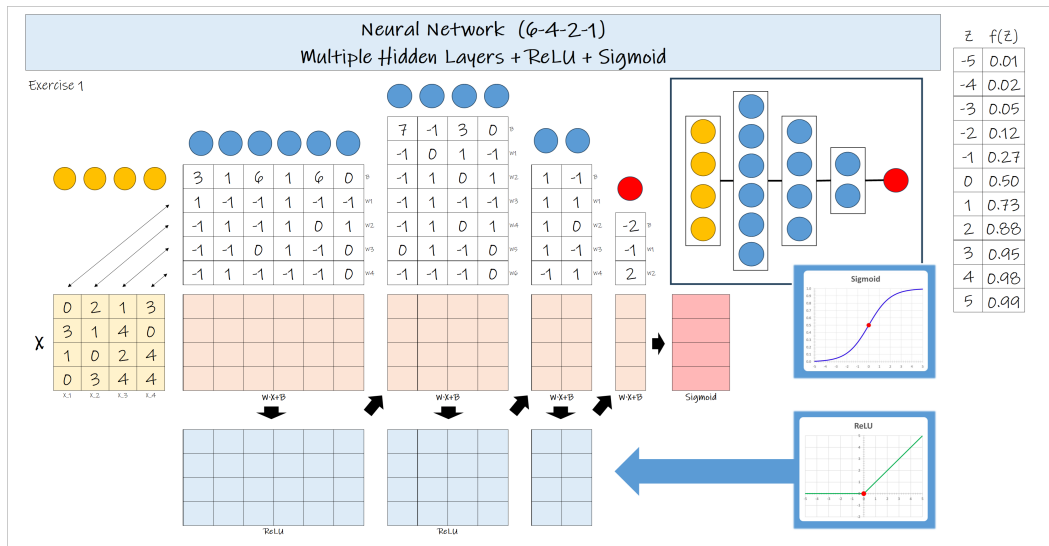


Figure 2. Excel-based neural network practice exercise used in Module 4, Spring 2026. A four-input network passes through three ReLU hidden layers (six, four, and two nodes) to a single sigmoid output node; participants manually computed each layer's weighted sum ($W \cdot X + b$) and applied the corresponding activation function, using the accompanying $z \rightarrow f(z)$ lookup table and reference activation-function curves (right).

2.3 Capstone Project

Throughout the week, participants work in teams of approximately six to eight members to formulate how AI/ML concepts could be applied to a real military problem of their choosing. Teams (designated Blue, Red, Green, and Yellow) are composed to mix rank category (NCO, warrant officer, and officer), gender, and grade. Teams are asked to address five guiding dimensions: the objective and impact of an AI-enabled approach relative to the status quo; data considerations, including availability, quality, and the training/deployment distribution; algorithm selection and the associated complexity–interpretability tradeoff; human–AI interaction, including trust-building and preserving human decision authority; and ethical and risk considerations, including required oversight. On Day 5, each team presents its analysis (approximately 20 min) to the full cohort and invited senior guests.

Early in the week, both lead instructors, Dr. Hobbs and Dr. Tschopp, used Google's NotebookLM* to demonstrate live what current transformer-based tools can do with a source document, converting an article or PDF into a slide deck, an infographic, a narrated audio podcast, or a short video (Section 2 describes one such demonstra-

*Google's NotebookLM has now been rebranded as Google Gemini Notebook.

tion in detail). That early demonstration proved highly influential on how teams approached their own capstone work. In contrast to prior years, Spring 2026 capstone teams used NotebookLM almost exclusively to synthesize their research into the visuals for their Day 5 slide presentations. A tool unfamiliar to most participants at the start of the week materially shaped how they produced their own AI-assisted work by its end. This provided a concrete illustration of the course's broader point about what current AI systems can do once participants see them demonstrated firsthand. Summaries of the four team capstone projects are detailed in Appendix F.

2.4 AI Specialist MOS Reflection Exercise

Spring 2026 introduced a new interactive exercise built around the Army's prospective AI/ML engineer military occupational specialty (MOS), then under discussion Army-wide. Early in the week, participants completed a written initial reflection (administered as a short Microsoft Forms survey) on the day-to-day role a new AI Specialist might perform, how that Soldier would fit into the larger Army team, and where the MOS should sit in the Army's structure (company, battalion, or brigade level). Fifteen of the 31 participants submitted a response. The exercise served as a discussion starter rather than a graded assignment, and its results were not intended to represent the full cohort.

Instructors then used the reflection topic to demonstrate a live application of the AI concepts being taught. Given a published article describing the proposed MOS, instructors used Google's NotebookLM to synthesize the source material into an infographic and a short (approximately 2-min) narrated video, which was shown in class. The exercise gave participants a concrete first-hand demonstration of how a generative AI tool can rapidly synthesize a written source into other modalities. This reinforced, through direct example rather than description alone, the course's broader point about what current AI systems can and cannot do.

Although the reflection was not designed or analyzed as a formal survey, the written responses nonetheless surfaced consistent themes. Officers and NCOs most often framed the AI Specialist as a bridge between operational commanders and technical developers, responsible for turning data and mission context into usable AI-enabled tools rather than operating as isolated "AI experts." Many advocated embedding the MOS at the battalion or brigade level, with touchpoints down to company level and up to division, so that AI expertise sits close enough to operations to matter

while still benefiting from higher-echelon integration. Others emphasized the need for clear career pathways and continuous technical education so that AI Specialists can keep pace with a rapidly evolving field. Appendix G reproduces representative responses in full.

2.5 Participants

Thirty-one Army personnel completed the Spring 2026 session as shown in Figure 3. Consistent with the course's target audience of mid-career staff officers, the cohort spanned company-grade and field-grade officers, warrant officers, and senior NCOs. Figure 4 summarizes the rank distribution: field-grade officers (majors and lieutenant colonels) made up the plurality of the cohort (12 of 31), followed by company-grade officers (captains and one first lieutenant, 9 of 31) and senior NCOs (one sergeant, six sergeants first class, and one master sergeant, 8 of 31), with two warrant officers rounding out the group.

Spring 2026 Cohort, Graduation Ceremony



Figure 3. The Spring 2026 Artificial Intelligence for Soldiers cohort at the ALC graduation ceremony, March 20, 2026, together with course instructors Dr. Reginald L. Hobbs, Dr. Mark A. Tschopp, and MAJ Andrew Miller, along with Mr. Joe Alexander, Deputy Director, ARL.

Participants represented nine major Army commands, reflecting the program's cross-enterprise nomination process rather than a single proponent organization. Figure 5 shows the distribution. Human Resources Command (HRC) contributed seven participants, the largest represented group, followed by the U.S. Army Reserve (USAR) with six; U.S. Army Pacific (USARPAC), U.S. Army Special Operations Command

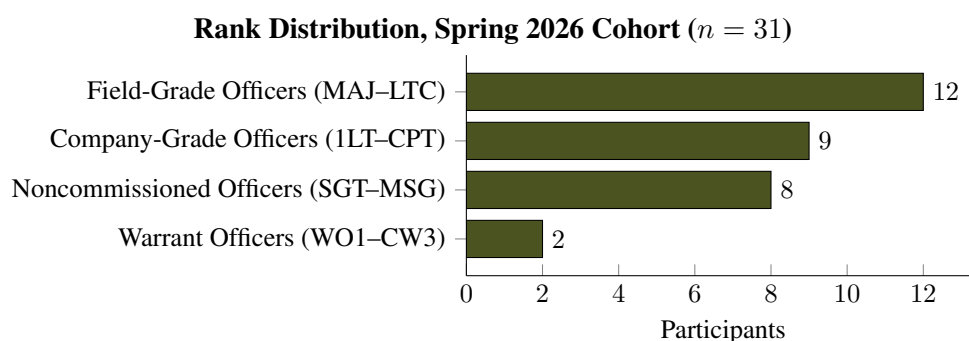


Figure 4. Rank distribution of the Spring 2026 cohort ($n = 31$). Field-grade officers made up the plurality, consistent with the course’s mid-career staff-officer target audience; the presence of senior noncommissioned officers and warrant officers reflects the program’s reach beyond the commissioned-officer corps.

(USASOC), Army Cyber Command (ARCYBER), and two DEVCOM/T2COM-affiliated organizational lines each contributed two to three participants, with the U.S. Army Corps of Engineers (USACE) rounding out the cohort.

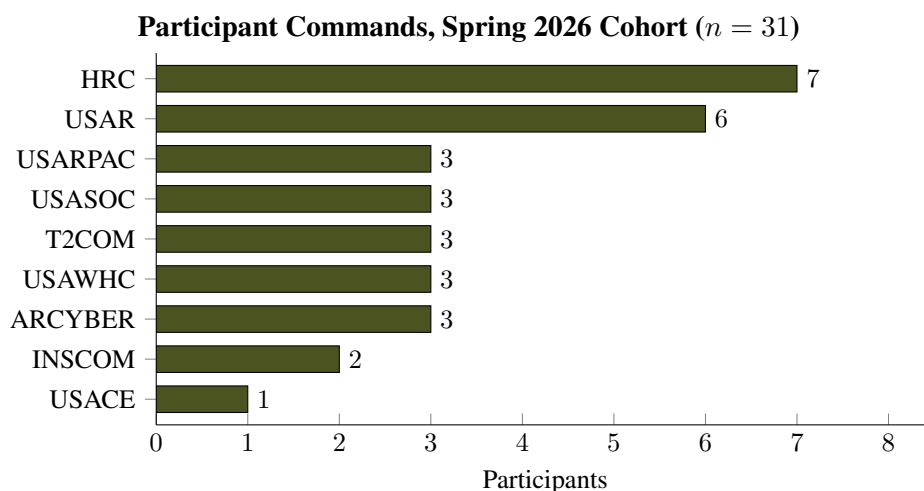


Figure 5. Participant commands, Spring 2026 cohort ($n = 31$). HRC = Human Resources Command; USAR = U.S. Army Reserve; USARPAC = U.S. Army Pacific; USASOC = U.S. Army Special Operations Command; T2COM = Training and Doctrine Command Talent Management/Institutional Training organizations; USAWHC = U.S. Army Western Hemisphere Command; ARCYBER = Army Cyber Command; INSCOM = U.S. Army Intelligence and Security Command; USACE = U.S. Army Corps of Engineers.

3. Course Feedback

Participants were invited to provide anonymous feedback through two Microsoft Forms instruments administered at the close of the course: a quantitative survey using 5-point Likert-scale statements, following the design used in prior years,^{5,6} and

an open-response qualitative survey. Of the 31 participants, 9 (29%) completed the quantitative survey and 6 (19%) completed the qualitative survey. Feedback that was received was overwhelmingly positive. The complete quantitative and qualitative surveys are reproduced in Appendix [H](#).

3.1 Quantitative Feedback

The quantitative survey first asked participants to rate their prior familiarity with AI/ML on a 5-point scale (Not at all, Slightly, Somewhat, Very, Extremely). Responses spanned the full range from “Not at all” (2) to “Extremely” (1), with the remainder split across “Slightly” (1), “Somewhat” (3), and “Very” (2). Due to the low survey response rate, it is difficult to confidently assess the broader familiarity with AI/ML across the entire cohort; however, this spread among respondents indicates the course continued to reach genuine non-specialists rather than only participants who came in already AI-literate.

The survey then presented 10 evaluation statements addressing content quality, instructional quality, and participants’ confidence in applying what they learned, each rated from 1 (Strongly Disagree) to 5 (Strongly Agree). Figure 6 presents the mean ratings for all 10 items.

Mean scores ranged from 4.56 to 4.89 across all 10 items, and no respondent selected Disagree or Strongly Disagree on any statement. All respondents agreed or strongly agreed with 7 of the 10 statements (100%):

- The presentations and course materials were well organized.
- The presentations and course materials explained the course concepts effectively.
- The presentations and course materials were interesting.
- The course gave me confidence to do more advanced learning (or understand more advanced concepts) in the area.
- The course gave me confidence to ask better questions about AI and AI systems.
- The instructors were enthusiastic and knowledgeable about the course material.
- My overall evaluation of the instructors is excellent.

The remaining three statements (confidence to inform others about what AI systems

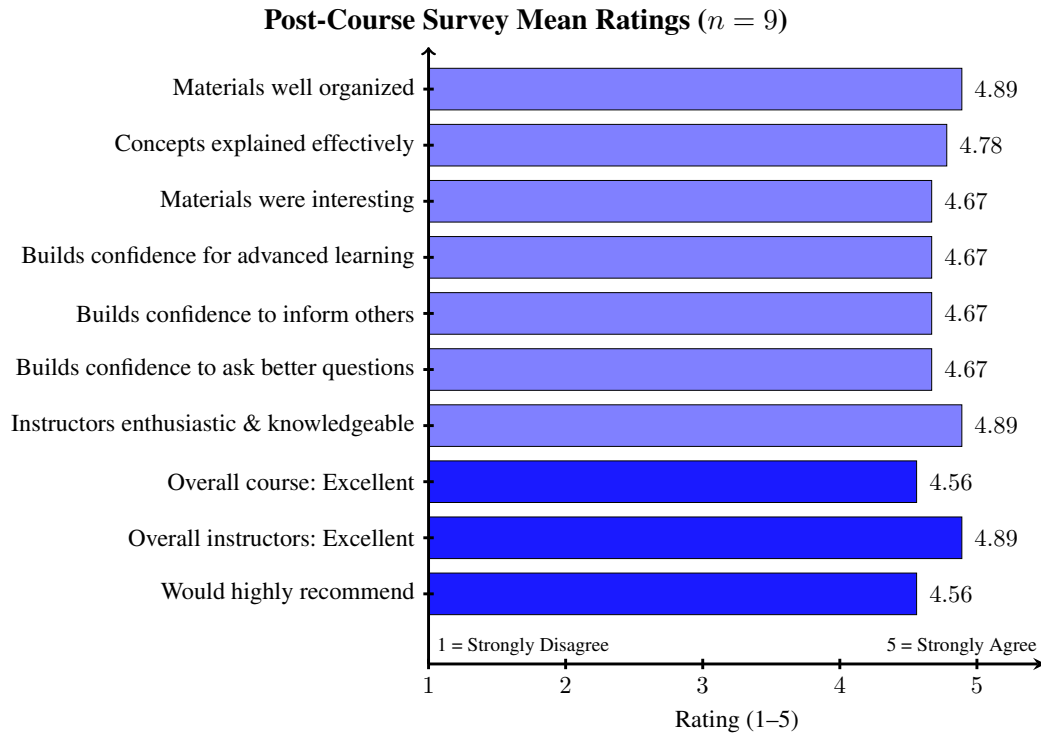


Figure 6. Mean ratings on a 5-point scale (1 = Strongly Disagree, 5 = Strongly Agree) for all post-course survey statements in the Spring 2026 session ($n = 9$).

can and cannot do, overall evaluation of the course as excellent, and willingness to highly recommend the course) each drew agreement or strong agreement from 8 of 9 respondents (89%), with the ninth response Neutral in each case rather than negative. As in prior years, the response most frequently rated Neutral concerned confidence to *apply* the material independently rather than satisfaction with the course itself, consistent with a course designed to build AI literacy rather than hands-on technical proficiency.⁶

3.2 Qualitative Feedback

The following comments, drawn from the open-response qualitative survey and from free-text fields on the quantitative survey, represent a curated selection spanning participant backgrounds and feedback themes. Full, unedited comments are reproduced in Appendix I.

- “I liked the explanation about what is at the heart of AI and showing simply what it is doing. . . I appreciated the math, the videos, and the examples of how it can be applied to assist Soldiers. I liked learning the terminology as well as

how to use the tool in a responsible manner.”

Pedagogy **First Principles** **Responsible Use**

- “This is the most accessible and detailed explanation I have ever received. Seeing the [Robotics Research Collaboration Campus] and [Army Research Laboratory] facilities was great to understand the context of current research methods.”

Pedagogy **Overall Quality** **ARL Lab Tours**

- “I loved the small class size allowed for ease of making connections. The enthusiasm of the instructors was contagious! It was a lot of course material, but it felt exciting to learn because of how invested the instructors were. . . LOVED the Excel spreadsheet for tactile learners like myself. The capstone project is a must keep.”

Instructor Enthusiasm **Excel Exercises** **Capstone Project**

- “I enjoyed seeing the different applications that are being developed at ARL and what the potential applications are for the future in the military. The most helpful part was working with others to understand how they see AI and what their perspective is about how AI will help them in their job roles.”

ARL Technology Showcase **Peer Learning**

- “Read-aheads to be able to digest the material prior to and after course instruction. Overall great experience! Instructors got me excited to learn again!”

Overall Quality **Read-Ahead Request**

- “I liked how the course taught the math behind the AI. . . I also liked seeing the [Army Research Laboratory] facilities and the Graces Quarters trip.”

Pedagogy **R2C2 Site Visit**

Constructive feedback centered on three recurring themes rather than dissatisfaction with the course itself. Several participants with technical or AI-adjacent backgrounds suggested that future sessions more clearly define the target audience, since the cohort’s range of quantitative and coding backgrounds meant some participants followed the mathematical material more easily than others. Related to this, multiple respondents requested read-aheads or pre-course materials to digest concepts at their own pace, and one suggested a brief introduction to ARL itself at the start of the week for participants unfamiliar with the laboratory. A third theme concerned

logistics during the Day 3 R2C2 visit, where participants asked for additional time in the demonstration areas relative to the introductory briefings. None of these comments were paired with an unfavorable rating on the quantitative survey (Section 3), consistent with feedback aimed at refining an already well-received course rather than signaling a problem with it.

4. Impact and Future Directions

4.1 Impact to the Army

The Spring 2026 session continued the program’s core value proposition: giving mid-career staff officers (rather than technical specialists alone) a working understanding of AI and ML that they can bring back to their formations. The cohort’s composition is itself a form of impact. Thirty-one officers, warrant officers, and NCOs across nine major commands, including USAR, USARPAC, USASOC, and ARCYBER (Section 2), returned to their units with a shared foundation for evaluating AI-enabled proposals and directing AI/ML applications relevant to their commands’ missions.

Direct senior leader engagement was a defining feature of the Spring 2026 session. MG Stephanie Ahern (HQDA G-3/5/7) delivered the Day 1 and Day 5 keynotes and engaged directly with the cohort throughout the week, including its capstone presentations; COL Melissa Johnson and Mr. Dietrich Wiegmann delivered keynotes from within ARL’s own leadership; and LTC Eric Sturzinger of the Army Artificial Intelligence Center engaged the cohort in both a keynote and the Day 4 panel. This level of leadership visibility signals institutional priority and gives participants direct access to the officers and organizations shaping Army AI policy.

The Day 3 R2C2 visit and Day 4 laboratory tours connected participants to ongoing ARL research, including Soldier-AI teaming for lethality (DIESL), robotics and autonomy, and NLP. This provided a concrete counterpart to the classroom instruction and a channel for participants to raise their own units’ problems directly with ARL researchers.

The culmination of the course was the capstone project, where participants synthesized the week’s instruction and applied it to real-world military problems. Teams formulated comprehensive strategies addressing data considerations, algorithm selection, human–AI interaction, and ethical risks. For example, participant teams designed concepts ranging from generative adversarial network (GAN)-based cam-

ouffage to deceive enemy sensors, to convolutional neural network (CNN)-driven multimodal sensor fusion for joint targeting, and AI-powered anomaly detection for border security (Appendix F). The depth of these projects demonstrated that participants successfully transitioned from a conceptual understanding of AI to practical, operational application, proving the value of the course in building true AI literacy.

The course is not positioned as a substitute for the Army's formal professional military education and training institutions, which serve an essential and distinct role in the force's development. What the course offers instead is a complement to that role: instruction delivered directly by the same ARL and Army scientists who are developing the Army's AI and autonomy technologies, drawing on their own current research and demonstrating their own systems rather than delivering standardized, externally sourced curriculum. In a field that changes as quickly as AI, that currency (researchers teaching from the leading edge of their own work) is the course's distinguishing value, and it is the reason HQDA asked ARL, specifically, to deliver it.

4.2 Suggestions and Future Directions

Year 3 was planned to establish a sustained two-session annual cadence for the program, doubling its reach relative to Year 2. The cancellation of the Summer 2026 session interrupted that plan; restoring a reliable two-session cadence is the program's most immediate planning question going into Year 4.

Consistent with recommendations from prior years,^{5,6} the program should continue to do the following:

- Sustain direct participation from Army senior leaders in keynotes and graduation, which prior and current cohorts have identified as a distinguishing strength of the course relative to standard training.
- Maintain the hands-on R2C2 and ARL laboratory components, which give participants tangible exposure to fielded and near-term AI/ML capabilities rather than classroom abstraction alone.
- Continue nominating participants across the breadth of Army commands (not only research- and technology-adjacent organizations) to extend AI literacy into operational, personnel, and institutional functions.

As the program matures, future sessions could also benefit from a more structured,

multilevel evaluation approach. For instance, we should assess not only participant reactions and immediate learning gains at the end of the course, but also longer-term changes in on-the-job behavior and mission-relevant outcomes as graduates return to their units. Adopting such a framework would give the program a clearer basis for measuring impact beyond end-of-course feedback.

Spring 2026 participant feedback (Section 3) points to three specific, low-cost refinements for future sessions: providing brief read-ahead materials so participants can digest foundational concepts at their own pace before class; opening the week with a short introduction to ARL for participants unfamiliar with the laboratory and its mission; and allotting additional time in the demonstration areas relative to introductory briefings during the Day 3 R2C2 visit. None of this feedback was paired with an unfavorable quantitative rating, and it should be read as guidance for refining an already well-received course rather than evidence of a shortfall. Future sessions should also pursue a higher survey response rate (9 of 31 participants completed the quantitative survey and 6 of 31 the qualitative survey in Spring 2026), for example, by administering both surveys in-session with hard copy before participants depart rather than relying solely on post-course online follow-up.

5. Conclusion

The Spring 2026 session of the Artificial Intelligence for Soldiers strategic broadening seminar delivered its third consecutive year of AI/ML education to mid-career Army staff officers, sustaining the program's established curriculum, senior leader engagement, and hands-on demonstration model across 31 participants from nine major Army commands. Year 3 was planned to expand the program to a two-session annual cadence, doubling its reach relative to Year 2; the cancellation of the Summer 2026 session means that goal was only partially realized in 2026, and restoring a reliable multi-session cadence is the program's central planning priority for Year 4.

Within the Spring session itself, the program continued to demonstrate what has distinguished it since its inaugural year^{5,6}: direct, sustained engagement from Army senior leadership; a non-coding curriculum built for staff-officer decision-making rather than technical practice; and a capstone project that requires participants to apply AI/ML reasoning to problems from their own units. As the program moves into its fourth year, its task is to convert 3 years of consistent delivery into an annual (or multi-session annual) offering.

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Appendix A. Course Coverage: Keeping It Green

This appendix appears in its original form, without editorial change. The Spring 2026 session of Artificial Intelligence for Soldiers was featured in “Keeping It Green,” an unclassified Army newsletter. The article, written by Ms. Tracie Dean (Public Affairs Specialist, Army Research Laboratory) and adapted by LTC James Kim (Strategic Development & Initiatives Division, DAMO-SSF), is reproduced below.

Army Strategic Broadening Seminars Offer Path to AI Advantage

The future of warfare is increasingly defined by artificial intelligence (AI), making AI mastery a critical key to decision advantage. To meet this challenge, mid-career officers and NCOs recently gathered for the "Artificial Intelligence for Soldiers" course at the U.S. Army Combat Capabilities Development Command, known as DEVCOM Army Research Laboratory (ARL).

Part of the Army HQ G-3/5/7 Strategic Broadening Seminars, the program leverages ARL's expertise to bridge the gap between emerging technology and operational realities. Over two dozen active and reserve Soldiers attended from units like ARCYBER, USARPAC, USASOC, MEDCOM, HRC, IMT, OCAR, 4th ID, 10th MTN, 25th ID, 82d ABN, 166 AVN Bde, and 19th ESC. The students—officers (O-2 to O-5), enlisted (E5-E7), and warrant officers (WO1-CW3)—brought diverse specialties ranging from logistics and intelligence to cyber and aviation.

A key takeaway was turning the AI "black box" into a "glass box." Course instructor Dr. Reginald Hobbs emphasized a simple philosophy: "It's not magic, it's math." This approach helps leaders narrow broad directives like "put some AI on it" into specific, well-defined tasks. Moving beyond terminology, the course explored machine learning algorithms, the role of training data, and technology's inherent limitations. The objective, according to instructors, is to develop leaders who can frame the right problems and ask the hard questions needed for responsible AI use.

To connect theory with real-world operations, the program featured a moderated "Soldiers + AI" panel and research demonstrations, allowing Soldiers to visualize how AI will support mission needs in high-tempo environments.



The course is already having a tangible impact: one alumnus, CW4 Reginald Oliver, was appointed as a Chief Digital Transformation Officer at CPE Aviation as a direct result of his attendance at a previous course.

The week culminated in capstone presentations where teams applied their learning to real-world Army challenges. MG Stephanie Ahern (HQDA G-35) and ARL Deputy Director, Joe Alexander, provided feedback to each group presentation and led a discussion on AI's ethical hurdles and rapid acceleration.

As these leaders return to their units, they carry a clear message: AI will not replace Army leaders, but leaders who understand AI will be better positioned to solve hard problems and deliver decision advantage at speed. Following this session's success, HQDA has asked ARL to conduct another session for fiscal year 2026, slated for June.

Ms. Tracie Dean
Public Affairs Specialist
Army Research Laboratory

adapted by LTC James Kim
Strategic Development &
Initiatives Division (DAMO-SSF)

Appendix B. Detailed Schedule

This appendix appears in its original form, without editorial change. This appendix reproduces the source scheduling documents produced for the Spring 2026 session—a one-page schedule summary distributed to participants at check-in, and the detailed, hour-by-hour planning schedule (reproduced in landscape orientation). Both documents reflect planning as of their distribution date; the graduation ceremony speaker was replaced on short notice, with Mr. Joe Alexander (Deputy Director, DEVCOM ARL) conducting the ceremony as described in [Section 2](#) of the main body of this report.

Artificial Intelligence for Soldiers

Dr. Mark Tschopp, Dr. Reggie Hobbs, MAJ Andrew Miller

Time:	Session:	Location:
Day 1: Monday, March 16, 2026		
0800—0930 ET	Welcome, Intro, and Guest Speaker	ALC Campus Zahl Seminar Room
0930—1200 ET	Module 1: Introduction to AI, Part I	
1200—1300 ET	Lunch (ALC Cafeteria)	
1300—1700 ET	Module 2: Introduction to AI, Part 2	
Day 2: Tuesday, March 17, 2026		
0800—0900 ET	Welcome, Intro, and Guest Speaker	ALC Campus Zahl Seminar Room
0900—1200 ET	Module 3: AI & Machine Learning	
1200—1300 ET	Lunch (ALC Cafeteria)	
1300—1700 ET	Module 4: AI & Machine Learning	
Day 3: Wednesday, March 18, 2026		
0800—0900 ET	Welcome, Intro, and Guest Speaker	ALC AVL (VisLab) then Bus to: Graces Quarters (R2C2) Depart @ 11:00
0900—1100 ET	Module 5: Artificial Intelligence and Robotics Integration	
1100—1300 ET	Travel / Lunch & Learn (R2C2)	
1300—1700 ET	Robotics Research Collaboration Campus (R2C2)	
Day 4: Thursday, March 19, 2026		
0800—0900 ET	Welcome, Intro, and Guest Speaker	ALC Campus Zahl Seminar Room Emmerman Lab, 4 th Floor Language Lab, 4 th Floor
0900—1100 ET	Module 6: Introduction to Natural Language Processing	
1100—1200 ET	Soldiers and AI Panel	
1200—1300 ET	Lunch (ALC Cafeteria)	
1300—1700 ET	AI in Action: Lab Tours and Demonstrations	
Day 5: Friday, March 20, 2026		
0800—0900 ET	Welcome, Intro, and Guest Speaker MG Stephanie Ahern Director of Strategy, Plans, and Policy, Army HQ	ALC Campus Director’s Conference Room 5 th Floor
0900—1100 ET	Capstone Project Presentations	
1100—1200 ET	This Just In: AI Right Now	
1200—1300 ET	Lunch	
1300—1600 ET	Final Comments: Dr. Eric Moore Director, DEVCOM Army Research Laboratory Graduation Ceremony & Feedback	

LOCATION:

ALC (Adelphi Laboratory Campus)
2800 Powder Mill Road
Adelphi, MD 20783

Graces Quarters, Robotics
Research Collaborative Campus
(R2C2), Middle River, MD

Foundation & Application of Artificial Intelligence and Machine Learning

	Monday, March 16, 2026		Tuesday, March 17, 2026		Wednesday, March 18, 2026		Thursday, March 19, 2026		Friday, March 20, 2026	
	What	Where	What	Where	What	Where	What	Where	What	Where
8:00 AM - 8:15 AM	Arrival	ALC Zahl Seminar Room	Keynote Speaker: ARL Military Deputy COL Johnson	ALC Zahl Seminar Room	Keynote Speaker: Mr. Dietrich Wiegmann ARL Division Chief	ALC Zahl Seminar Room	Keynote Speaker: AI in Action AI2C Overview	ALC Zahl Seminar Room	Keynote Speaker: MG Ahern HQDA	ALC 5th Floor Conference Room 516
8:15 AM - 8:30 AM	AI4Soldiers Course Introduction									
8:30 AM - 8:45 AM	Dr. Mark Tschopp									
8:45 AM - 9:00 AM										
9:00 AM - 9:15 AM	Keynote Speaker: G357 ASL		AI/ML 101 Dr. Mark Tschopp		Morning Break		Natural Language Processing (NLP) Dr. Reggie Hobbs		Morning Break	
9:15 AM - 9:30 AM					Intro to Robotics Dr. Reggie Hobbs				AI 4 Soldiers Capstone Presentations (4 Teams)	
9:30 AM - 9:45 AM							Morning Break			
9:45 AM - 10:00 AM					Break / Board Bus		NLP Dr. Reggie Hobbs			
10:00 AM - 10:15 AM	Morning Break		Morning Break							
10:15 AM - 10:30 AM					Travel to Graces Quarters (in transit)				This Just In: Latest in AI	
10:30 AM - 10:45 AM			AI/ML 101 Dr. Mark Tschopp				Soldiers + AI Panel			
10:45 AM - 11:00 AM	Intro to AI Dr. Reggie Hobbs									
11:00 AM - 11:15 AM		ALC Cafeteria		ALC Cafeteria	(Working) Lunch Break @Graces Quarters	Graces Quarters R2C2 Robotics Research Collaboration Campus		ALC Zahl Seminar Room	Lunch Break (Pizza)	
11:15 AM - 11:30 AM										
11:30 AM - 11:45 AM										
11:45 AM - 12:00 PM										
12:00 PM - 12:15 PM	Lunch Break		Lunch Break				Lunch Break			
12:15 PM - 12:30 PM										
12:30 PM - 12:45 PM										
12:45 PM - 1:00 PM										
1:00 PM - 1:15 PM	Intro to AI Dr. Reggie Hobbs	ALC Zahl Seminar Room	AI/ML 101 Dr. Mark Tschopp	ALC Zahl Seminar Room	Robotics Demo		AI in Action		ARL Director Graduation Ceremony	
1:15 PM - 1:30 PM										
1:30 PM - 1:45 PM										
1:45 PM - 2:00 PM										
2:00 PM - 2:15 PM	Afternoon Break		Afternoon Break				Break		AI4Soldiers Pictures Course Feedback	
2:15 PM - 2:30 PM										
2:30 PM - 2:45 PM	Intro to AI Dr. Reggie Hobbs		AI/ML 101 Dr. Mark Tschopp				AI in Action			
2:45 PM - 3:00 PM										
3:00 PM - 3:15 PM										
3:15 PM - 3:30 PM										
3:30 PM - 3:45 PM										
3:45 PM - 4:00 PM	Break		Break				Break			
4:00 PM - 4:15 PM	Capstone Team		Capstone Team		Travel to ALC (in transit)		Capstone Team			
4:15 PM - 4:30 PM										



Appendix C. Course Information Package

The course packet within this appendix appears in its original form, without editorial change.

Each participant received a course information packet at check-in on Day 1, distributed as a physical folder at the Adelphi Laboratory Center (ALC) foyer welcome table. The packet contained:

- A course information packet summarizing the week's format, objectives, and expectations.
- A one-page schedule summary and a detailed, hour-by-hour schedule.
- Capstone project information and a team project template.
- A safety briefing.
- Directions and a visitor guide for the Day 3 R2C2/Graces Quarters off-site visit.
- ALC parking instructions.
- WiFi access instructions for both ALC and R2C2 networks.
- Meal-payment instructions for individually paid lunches at the ALC cafeteria.

Participants were instructed to bring government-furnished equipment computers; personal laptops were not used for course materials. Each participant was responsible for initiating their own installation-access visit authorization through their unit security officer in advance of the course, coordinated centrally by ARL with Headquarters, Department of the Army, G-3/5/7.

The full course information packet, including a module-by-module description of the curriculum and instructor biographies, is reproduced below.

Artificial Intelligence for Soldiers



Prompt: [Microsoft Bing Image Creator] Envision a surreal battlefield landscape where algorithms and equations replace traditional tanks and soldiers. Graphs, matrices, and decision trees form the terrain, while military officers navigate this abstract warzone. A giant AI brain hovers ominously in the sky, controlling the chaos.

Artificial Intelligence for Soldiers

Course Overview

Course Title: Artificial Intelligence for Soldiers

Target Audience: Mid-career Army staff officers with no coding background, holding undergraduate degrees, seeking to enhance their understanding of Artificial Intelligence (AI) and Machine Learning (ML).

Course Capacity: 32 students

Preferred Format: In-person course over a one-week schedule.

Funding: Travel and TDY costs funded by HQDA, G3/5/7.

Course Content:

This course aims to orient learners to concepts within artificial intelligence and the sub-group of machine learning as it pertains to the Army. Participants will gain intermediate knowledge of the different families of machine learning algorithms, training data needed for each, and the appropriate application and limitations of each. The curriculum covers handcrafted knowledge AI versus machine learning AI approaches and explains key factors driving recent improvements in machine learning performance. Additionally, participants will develop a basic understanding of neural networks and how they work. Strategies for applying AI to discrete and complex data sets to solve business, strategic, or logistical problems will be provided, with tools and strategies synthesizable to novel situations in diverse organizational settings, including military environments.

Objectives:

- Enable Army officers to provide senior leaders with data-driven decision-making abilities previously unavailable, allowing them to seize opportunities that provide a competitive advantage over adversaries.
- Enable Army officers to understand and direct approaches for leveraging data and algorithms to achieve their goals.
- Increase staff officers' ability to determine potential, previously unconsidered applications for business and strategic decision-makers.
- Enable Army officers to provide real-world perspectives to ARL leaders on problems where AI capabilities could yield transformational change.

This course is designed to equip participants with the knowledge and skills needed to effectively utilize AI in military contexts, fostering innovation and strategic decision-making.

ARTIFICIAL INTELLIGENCE FOR SOLDIERS

FOUNDATIONS OF ARTIFICIAL INTELLIGENCE / MACHINE LEARNING

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
SPEAKER	SPEAKER	SPEAKER	SPEAKER	SPEAKER
WELCOME		MODULE 5	MODULE 6	FINAL CAPSTONE PROJECT
MODULE 1	MODULE 3	  AI	NLP 	
CAPSTONE SCENARIO		AI in ACTION R2C2	AI in ACTION	THIS JUST IN: AI NOW
MODULE 2	MODULE 4	 	 IOIO IOIO 	AI4SOLDIERS GRADUATION
				COURSE FEEDBACK

Course Schedule

	Monday March 16 (Day 1)	Tuesday March 17 (Day 2)	Wednesday March 18 (Day 3)	Thursday March 19 (Day 4)	Friday March 20 (Day 5)
AM	Module: AI Introduction I AI History and Applications	Module: Introduction to Data and Machine Learning	Module: AI and Robotics	Module: Introduction to Natural Language Processing (NLP)	AI Capstone and Course Feedback, Capstone Final Preparation
PM	Module: AI Introduction II + Introductions\ Capstone	Module: Introduction to Neural Networks	AI in Action: Robotics Research Collaboration Campus (R2C2)	AI in Action: ALC AI/ML Applications	AI Capstone Project Presentations, Graduation Ceremony
Where	Zahl	Zahl	Graces Quarters	Zahl	ALC 5th Floor
Leads	RH, MT	MT, RH	RH, MT	RH, MT	RH, MT

Week 1: Foundations of Artificial Intelligence and Machine Learning

- Day 1: Understanding AI Concepts and Fundamentals
 - Morning Session: Introduction to AI and its Applications
 - Afternoon Session: Team Introductions and Scenarios
- Day 2: Machine Learning Basics to Neural Networks: How They Work
 - Morning Session: Introduction to Machine Learning & Neural Networks
 - Afternoon Session: Complex Neural Network Architectures
- Day 3: Robotics and Autonomy 101
 - Morning Session: AI and Robotics Integration
 - *AI in Action: Robotics Research Collaboration Campus (R2C2)*
- Day 4: Natural Language Processing and AI/ML
 - Morning Session: Introduction to Natural Language Processing (NLP)
 - *AI in Action: Lab Tours and Demonstrations*
- Day 5 (Final): AI Capstone Project Presentations and Graduation Ceremony
 - Morning Session: Feedback and Final Preparation
 - Afternoon Session: AI Capstone Project Presentations and Graduation Ceremony

Program Module Abstracts

Module 1

INTRODUCTION TO ARTIFICIAL INTELLIGENCE, Part I

Instructor(s): Dr. Reggie Hobbs

AI Problem Solving. Welcome the Artificial Intelligence for Soldiers course! This first module sets the stage for the course, introducing artificial intelligence, its history, and the foundational concepts that will be explored throughout the program.

Module Topics:

- Evolution of Artificial Intelligence – This topic explains the fundamentals of artificial intelligence, providing definitions and discussing the disciplines contributing to AI.
- Intelligent Agents – An introductory discussion explores the nature of intelligent agents, examining their capabilities and roles within AI systems.
- Fundamentals of Search and Adversarial Search (Games) – Participants delve into algorithmic problem-solving approaches, exploring how agents find solutions through search algorithms. The module also covers adversarial search strategies, particularly in competitive environments where conflicting goals exist, often illustrated through game scenarios.

Module 2

INTRODUCTION TO ARTIFICIAL INTELLIGENCE, Part II

Instructor(s): Dr. Reggie Hobbs

Knowledge and Reasoning. This module explores the foundational aspects of AI, focusing on Knowledge and Reasoning. It delves into the design of intelligent agents capable of understanding and navigating a complex world through logical inferencing. Additionally, various techniques for representing real-world knowledge within AI systems are covered, enabling effective problem-solving and decision-making in uncertain or limited data environments. Through this module, participants gain essential insights into the cognitive processes underlying intelligent behavior in artificial systems.

Module Topics:

- Logical Agents and Inferencing – This topic delves into the design of intelligent agents capable of forming representations of complex environments, utilizing inferencing to derive new representations, and deducing next steps based on the updated internal model.
 - Knowledge Representation – Participants will receive an overview of techniques employed by AI systems to represent diverse facts about the real world in a format conducive to reasoning and problem-solving.
 - Automated Decision Making – This topic explores rule-based approaches that enable agents to make decisions even when faced with limited or uncertain data.
-

Module 3

INTRODUCTION TO MACHINE LEARNING

Instructor(s): Dr. Mark Tschopp

Machine learning here, machine learning there, machine learning everywhere! This module will tackle the concepts, the math, and the algorithms of machine learning for those that are slightly familiar, somewhat familiar, or not at all familiar with the topic. Starting at the very beginning with the simplest machine learning algorithms such as linear and logistic regression, this module will embark on describing the many concepts important for understanding what goes on inside machine learning algorithms, arguably the “engine” that powers many advances today in artificial intelligence. To describe the algorithms and concepts further, this module uses Microsoft Excel to show the underlying math that permeates machine learning.

Module Topics:

- Data is the New Bacon. A fun intro and overview of the importance of data within machine learning and artificial intelligence. Pop culture anecdotes, data analysis & visualization, data science and ML, data ethics and privacy, data-driven decision making, the future of data!
- Machine Learning Primer. A gentle introduction to machine learning concepts including a simple supervised machine learning example. The topics covered include:
 - 2-day ML course structure,
 - why machine learning AI,
 - types of machine learning (supervised vs unsupervised),
 - the simple math of (supervised) machine learning, and
 - a simple dog-cat example.
- Machine Learning Basics. All the important machine learning concepts needed to understand neural networks and deep learning, without the neural networks. The topics covered include:
 - regression and classification,
 - linear regression,
 - loss and cost functions,
 - gradient descent and optimization,
 - logistic regression,
 - variance vs bias tradeoff,
 - regularization, and
 - training set, dev set, test set.

Module 4

INTRODUCTION TO NEURAL NETWORKS

Instructor(s): Dr. Mark Tschopp

These days, whenever someone says, “Don’t worry, I’m using machine learning,” it usually means that they are using some sort of neural network architecture (and quite possibly that you should worry). Building on the introduction to machine learning (Module 3), this module dives into what makes up the standard neural network architecture. Many of the concepts introduced for simple algorithms are very similar to the concepts used within neural networks, with a few deviations. This module will explore how simple perceptron models—the building blocks of neural networks—can be copied multiple times to make up a

layer of nodes and can then be expanded into multiple layers to make “deep learning” neural networks. This module sets the stage for the more complex neural network architectures that to be covered on Day 3.

Module Topics:

- **Neural Network Basics.** The basic concepts within conventional neural networks, building upon those learned from linear/logistic regression. The topics covered include:
 - deep learning,
 - perceptron,
 - increased complexity of simple neural networks (hidden layer, multiple nodes),
 - forward propagation and backpropagation,
 - activation functions,
 - optimization methods,
 - initialization and regularization,
 - Excel and python examples.

Module 5

NEURAL NETWORKS ARCHITECTURES FOR IMAGES, COMPRESSION, and GENERATIVE AI

Instructor(s): Dr. Mark Tschopp

Data doesn't always come in nice data tables with clear inputs and outputs. This module starts to look at data that comes in much different forms: from images to unstructured text. First, a fun talk about when machine learning goes wrong, i.e., real-world applications that have failed in big ways and have been publicized through various media outlets. Then, a look at how some unstructured data, like text and categories can be transformed into structured data for ingestion into machine learning models. This module will then tackle 1) how convolutional neural networks take on image data, 2) how autoencoders compress and decompress data, and 3) how generative adversarial networks take advantage of two competing neural networks to produce fake data that is almost as good as the real data.

Module Topics:

- **AI/ML Real-World Examples.** A fun and informative deep dive into the good, the bad, and the ugly of AI have been publicized via various media outlets. From AI defeating Gary Kasparov to Alpha Go to Amazon's Sexist hiring algorithm to adversarial-perturbed 3D printed turtles to Microsoft's chatbot-turned-racist Tay.ai, this section is an entertaining and concerning look at AI in the wild.
- **Feature Encoding.** As a precursor to looking at unstructured text data, this section is a brief look at how categories can be turned into numerical features for ingestion into machine learning models. The topics covered include:
 - label (ordinal) encoding,
 - one-hot encoding and dummy encoding,
 - target mean encoding, and
 - dealing with overfitting in target mean encoding.
- **Convolutional Neural Networks.** When dealing with data in the form of images and videos and signals, convolutional neural networks take advantage of local information around a specific point, identifying local patterns and relationships. The topics covered include:
 - what are convolutions,

- convolutional neural network building blocks,
 - filters in hidden layers and saliency maps,
 - different CNN models and ImageNet,
 - advanced architectures (Inception, ResNet),
 - transfer learning,
 - reinforcement learning with CNNs,
 - simple Python examples.
- Autoencoders and Generative Adversarial Networks. Neural networks can also be used to compress the dimensionality of data (encode), to expand data into higher dimensions (decode), and to generate new fake data (GANs). The topics covered include:
 - autoencoders and stacked autoencoders,
 - regularization in autoencoders—variational autoencoders,
 - latent space in autoencoders,
 - anomaly detection and autoencoders,
 - generative adversarial networks concepts, and
 - deepfakes.

Module 6

NEURAL NETWORKS ARCHITECTURES FOR SEQUENCES AND TEXT

Instructor(s): Dr. Mark Tschopp

OpenAI's ChatGPT took the world by storm. Less impressive language models were released prior to this, but these were quickly pulled offline based off of user feedback. But how do you take an entire corpus of digitized text from books, from the Internet, and from other sources and use it to train billions of parameters for a model that converses intelligently with a diverse set of users all over the world? This module explores sequence models and provides a brief introduction to what's happening under the hood of some of the simpler natural language processing models.

Module Topics:

- Sequence Models. When data is in the form of sequences where context is important, sequence models can use that adjoining information to improve predictions. The topics covered include:
 - anomaly detection example for time series (sequence),
 - one-to-many, many-to-one, many-to-many model examples,
 - recurrent neural networks,
 - gated recurrent unit models,
 - long/short term memory models,
 - an example in Excel,
 - cross-validation for sequences, and
 - text-to-image network examples—Dall-E, Bing Image Creator, Midjourney.
- Natural Language Processing. When the data is an enormous corpus of text, like every digitized book ever or the entire Internet, natural language processing combined with neural network architectures is a powerful tool. The topics covered include:
 - the basics of NLP,
 - Allen NLP—question-answer models, masked language models,
 - structured data versus language,
 - words-to-numbers—the embedding vectors,

- word similarity,
- co-occurrence matrices,
- GloVe global (word) vector and its properties, and
- Word2Vec—skipgram and continuous bag of words.

Module 7

INTRODUCTION TO NATURAL LANGUAGE PROCESSING

Instructor(s): Dr. Reggie Hobbs

Natural Language Processing (NLP) has emerged as a defining moment in the trajectory of artificial intelligence. This module explores the pivotal role NLP plays in contemporary AI developments.

Module Topics:

- Overview of Natural Language Processing – This topic delves into how intelligent systems leverage natural language to interact with humans and learn from textual data. It includes a brief explanation of the fundamental components of natural language.
- Automated Speech Recognition – Participants will gain insights into the methods and techniques enabling intelligent systems to recognize and transcribe spoken language into text.
- Deep Learning for NLP – The module discusses the application of deep neural networks in various language tasks, capturing the intricate structure of natural language from training data. Additionally, it provides an overview of the transformer architecture, which, in conjunction with abundant data and high-performance computing resources, has facilitated the development of large language models and the emergence of Generative AI capabilities.

Module 8

PRACTICAL APPLICATIONS OF NLP

Instructor(s): Dr. Reggie Hobbs

Natural Language Tasks. This module explores various natural language processing tasks essential in modern AI applications.

Module Topics:

- Information Extraction - Participants will delve into the use of computer systems to automatically extract structured information from unstructured or semi-structured machine-readable documents. This process enables computation on previously unstructured data and supports automated reasoning about the logical form of input data.
 - Question Answering and Summarization – This topic provides an overview of computational linguistic approaches that generate phrases, sentences, and paragraphs in response to user queries in natural language. These techniques facilitate focused information retrieval across documents.
 - Dialogue and Conversational Agents – Participants will gain insights into intelligent systems designed to communicate directly with humans using natural language. The module covers aspects such as tracking verbal transactions, determining speaker intent, handling ambiguity, and addressing uncertainty arising from vague input.
-

Module 9

REINFORCEMENT LEARNING AND ROBOTICS INTEGRATION

Instructor(s): Dr. Reggie Hobbs

This module provides an introduction to the integration of artificial intelligence and machine learning with robotics and autonomous systems. The module also includes a briefing about the R2C2 at Grace's Quarters, followed by a tour of the facilities and demonstrations of autonomous platforms.

Module Topics:

- **Introduction to Intelligent Robotics:** Participants will be introduced to the fundamental concepts and principles of intelligent robotics.
 - **Behavior Based Robotics:** The module explores the principles behind behavior-based robotics, focusing on the design and implementation of robotic behaviors.
 - **Human-Robot Interaction:** Participants will examine the various aspects of human-robot interaction, including communication modalities and interface design.
 - **Autonomous Systems for the Army:** This topic covers the deployment and application of autonomous systems within military contexts, with a focus on Army operations.
 - **Artificial Intelligence for Maneuver and Mobility:** Participants will learn about the role of artificial intelligence in enhancing maneuverability and mobility in military settings.
-

Program Instructors

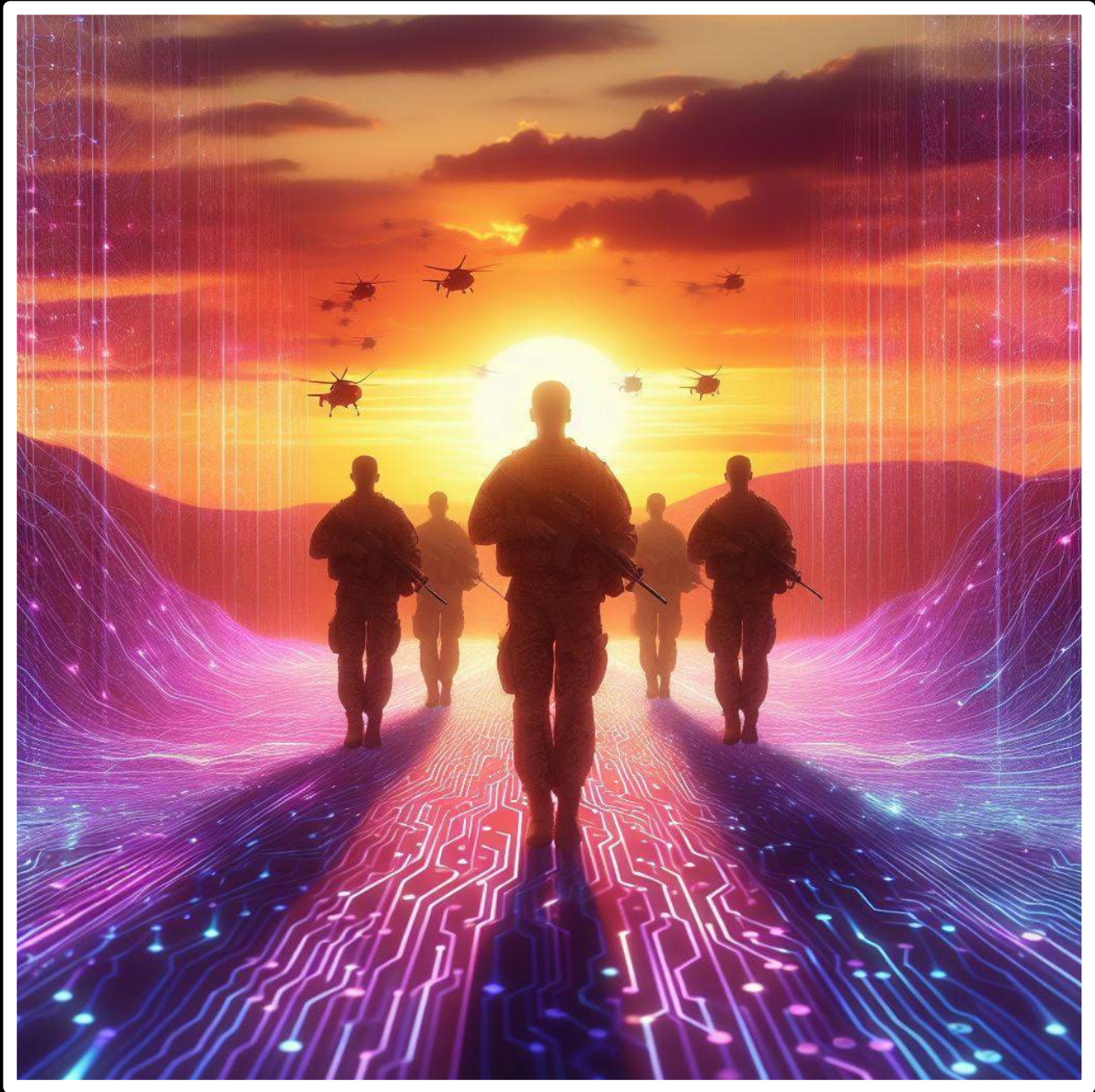
DR. MARK TSCHOPP

Dr. Mark Tschopp is a research scientist within ARL's Army Research Directorate. He has spent over a decade in R&D roles ranging from scientist to faculty to senior leader within GM Powertrain, the Air Force Research Laboratory, Mississippi State University, and the Army Research Laboratory (ARL). As a scientist, he is known for research on accelerated materials design using modeling and simulation, data science, machine learning, and design optimization. He is a Fellow of ASME (mechanical engineering), a Fellow of ASM International (materials science) and an ARL Fellow (top 1.5% of ARL scientists) – the highest distinction for scientists within these organizations. He is passionate about sharing his knowledge and has developed a popular short course titled "Machine Learning for Everyone: May the Course Be with You" in 2021 that has now had over 3000 participants, including over 2000 Army personnel from 173 organizations (17 major commands), receiving the 2022 ARL Honorary Award for Impactful Communication. He has published over 100 articles in top peer-reviewed journals, his work has been cited over 9000 times, and he has delivered over 200 submitted and invited presentations, conference talks, university seminars, and panel sessions.

DR. REGGIE HOBBS

Dr. Reginald L. Hobbs has 40 years in the computer industry, including active duty in the US Air Force, serving as a defense contractor, and his current career as an Army computer scientist. Dr. Hobbs has a bachelor's degree in Electronics from Chapman University and graduate degrees in Computer Science from the Georgia Institute of Technology. He is currently Chief of the Content Understanding Branch at DEVCOM Army Research Laboratory. He has research interests and experience in the areas of software engineering, natural language processing, artificial intelligence, and cognitive science. Dr. Hobbs has 50+ publications in multiple scientific disciplines and his work has been cited by researchers around the world.

Artificial Intelligence for Soldiers



Prompt: [Microsoft Bing Image Creator] Imagine a serene sunset scene where US soldiers, their forms outlined in shadow, walk purposefully toward the horizon. The backdrop is a blend of warm oranges and purples, with the sun casting long shadows. However, instead of a traditional landscape, the ground beneath their feet is composed of intricate AI algorithms, neural networks, and lines of code. These digital pathways lead toward the vanishing point, symbolizing the soldiers' journey into an AI-driven future.

Appendix D. AI for Soldiers Team

The Spring 2026 session was made possible by the following instructors, Army liaisons, coordinators, speakers, panelists, demonstration leads, and ARL staff.

Table D-1. AI for Soldiers team, Spring 2026 session.

Name	Organization	Role
Dr. Mark Tschopp	DEVCOM ARL	Lead Instructor
Dr. Reggie Hobbs	DEVCOM ARL	Lead Instructor
MAJ Andrew Miller	DEVCOM ARL	Co-Instructor; Day 4 Panelist
LTC James Kim	HQDA G-3/5/7	Introductory comments, Day 1
MG Stephanie Ahern	HQDA G-3/5/7	Keynote, Day 1 (PM, virtual) and Day 5
COL Melissa Johnson	DEVCOM ARL	Keynote, Day 2
Mr. Dietrich Wiegmann	DEVCOM ARL	Keynote, Day 3
LTC Eric Sturzinger	DEVCOM AI2C	Keynote, Day 4; Day 4 Panelist
Mr. Joe Alexander	DEVCOM ARL	Graduation ceremony, Day 5
CW4 Reggie Oliver	CPE Aviation	Day 4 Panelist
Mr. Chris Oliver	DEVCOM ARL	ARL–HQDA partnership POC
Mr. Brian Gollsnider	DEVCOM ARL	Moderator, Day 4 “Soldiers + AI” Panel
Mr. Jeffrey Westrich	DEVCOM ARL	Lead coordinator, R2C2/Graces Quarters off-site
Dr. Rajneesh Singh	DEVCOM ARL	R2C2 site visit coordination, Day 3
Dr. Derrick Asher	DEVCOM ARL	R2C2 robotics demonstration, Day 3
Ms. Christa Robinson	DEVCOM ARL	R2C2 robotics demonstration, Day 3
Mr. Jason Pusey	DEVCOM ARL	R2C2 robotics demonstration, Day 3
Mr. Philip Osteen	DEVCOM ARL	R2C2 robotics demonstration, Day 3
Dr. Brandon Perelman	DEVCOM ARL	R2C2 DIESL demonstration, Day 3
Dr. Leah Enders	DEVCOM ARL	R2C2 DIESL demonstration, Day 3
Dr. Jade Freeman	DEVCOM ARL	Mixed-reality demonstration, Day 4
Dr. Claire Bonial	DEVCOM ARL	NLP demonstration, Day 4
Dr. Adrienne Raglin	DEVCOM ARL	NLP demonstration, Day 4
Dr. Stephanie Lukin	DEVCOM ARL	NLP demonstration, Day 4
Ms. Alicia Conlon	DEVCOM ARL	Logistics and operations
Ms. Tracie Dean	DEVCOM ARL	Public Affairs
Ms. Erin Moczulski	DEVCOM ARL	Participant badging and visit authorization
Dr. Pablo Guzman	DEVCOM ARL	Graduation ceremony coordination

Appendix E. Certificate

This appendix appears in its original form, without editorial change. Each participant who completed the Spring 2026 session received a certificate of completion, presented at the Day 5 graduation ceremony in the ARL Director's Conference Room. Certificates and challenge coins were signed in coordination with Headquarters, Department of the Army, G-3/5/7 (MG Stephanie Ahern), and presented by Mr. Joe Alexander (Deputy Director, ARL).

SAMPLE

ARTIFICIAL INTELLIGENCE FOR SOLDIERS

This Certificate of Completion is Awarded to

Rank - Full Name

[Participant's Full Name] has successfully completed the 40-hour Artificial Intelligence for Soldiers Strategic Broadening Seminar. Offered by DEVCOM Army Research Laboratory in partnership with Headquarters Department of the Army, this course provides Soldiers with knowledge of fundamental artificial intelligence (AI) concepts and future AI capabilities for the Army. Participants gain insights into AI technologies, enabling them to provide senior leaders with data-driven decision-making abilities to solve business, strategic, or logistical problems within military contexts.

March 16-20, 2026

MG Stephanie R. Ahern
Director of Strategy, Plans, and Policy
Headquarters, Department of the Army

Course Date

Dr. Eric Moore
Director (A)
Army Research Laboratory



Appendix F. Capstone Project Summaries

Capstone Project Summaries

The Spring 2026 session culminated in team-based capstone projects where participants synthesized the week's curriculum to address operational military challenges. Participants divided into four teams (Blue, Green, Red, and Yellow) and developed proposals covering the operational gap, data considerations, algorithm selection, human–AI interaction, and ethical/risk considerations. The following summaries highlight the themes and technical concepts demonstrated in each team's final presentation.

Blue Team: AI Deception for Tactical Superiority

The Blue Team focused on adversarial AI to disrupt and mislead enemy AI-enabled detection systems (e.g., drones, satellites, and sensors). Their project, “Outsmarting the Machine,” explored the use of Generative Adversarial Networks (GANs) and adversarial patches to create wearable, real-time visual noise capable of deceiving thermal and machine learning models. By training AI to understand and fool visual and acoustic enemy models, the team demonstrated how AI-guided camouflage could enhance Soldier survivability. Their risk assessment carefully weighed mission success against the risks of falling behind adversary detection capabilities, emphasizing the need for dynamic pattern generation, human-in-the-loop oversight, and continuous adversarial testing.

Green Team: AI-Driven Sensor Fusion and Targeting

The Green Team explored the integration of AI across personnel systems, logistics, and multi-domain targeting. A key focus was mitigating false target engagements by utilizing Convolutional Neural Networks (CNNs) to fuse multimodal sensor data (e.g., RF spectral inputs and EO/IR imagery). The team highlighted that overcoming radar shortfalls through visual corroboration can drastically reduce misidentification in cluttered, contested environments. Furthermore, they emphasized the critical role of data reliability, asserting that a trustworthy AI/ML model starts with clean, verified data validated by Soldiers at the lowest echelons. Their proposal balanced the selection of algorithms (such as deep reinforcement learning for real-time decision-making and recurrent neural networks [RNNs] for movement prediction) with strict ethical considerations surrounding bias, fairness, and human autonomy.

Red Team: Joint Targeting and Multi-Domain Operations

The Red Team presented a comprehensive framework for applying AI to Joint Targeting, aiming to coordinate and layer kinetic and non-kinetic effects in complex operational environments. They proposed a multi-model system where computer vision and electromagnetic spectrum (EMS) signature analysis handle pattern recognition, random forests and gradient boosting refine threat prediction, and deep learning neural networks classify threat capabilities. The team explicitly mapped AI to the targeting cycle, arguing that AI serves as a force multiplier by rapidly fusing multi-domain intelligence and forecasting logistical requirements. Crucially, they addressed human-AI interaction and ethical risks, warning against data poisoning, disinformation campaigns, and automation bias, and argued for continuous red-teaming and the necessity of keeping a human in the loop for lethal targeting.

Yellow Team: Sentinel Vision: AI-Powered Anomaly Detection

The Yellow Team developed “Sentinel Vision,” an AI-powered anomaly detection concept designed to address border intrusions and terrain movement challenges. Recognizing the current reliance on slow, human-centric analysis, the team proposed using CNNs and autoencoders to compare live sensor data (UAS, LiDAR, RADAR, and forward-looking infrared) against baseline terrain models to generate real-time alerts. Their presentation highlighted the tradeoff between model complexity and interpretability, recommending simpler models (like decision trees) where explainability is paramount, and complex deep neural networks where high fidelity is required. They also detailed human-AI interaction strategies, including explainable AI (XAI) features, override capabilities, and active feedback loops to build trust and respect human decision-making autonomy.

Appendix G. AI Specialist Military Occupational Specialty Reflections

AI Specialist MOS Reflection Responses

This appendix reproduces selected responses from the Spring 2026 AI Specialist MOS reflection exercise (Section 2). Participants were asked to describe the day-to-day role of a proposed AI Specialist, how that Soldier would fit into the larger Army team, and where the MOS should sit in the Army's structure. These comments reflect individual perspectives of Spring 2026 participants and do not represent official Army positions or policy.

The AI Specialist's Role

- “Assisting the command in making day to day tasks more efficient. By taking the workload off of the staff through the utilization of AI tools, such as OPOD writing, task tracking, maintenance predictions, etc.”
- “AI Specialists should integrate AI solutions into the Army's material and software solutions.”
- “An AI specialist would likely spend time processing data and working on improving specialized models for different use cases. There are a broad range of applications depending on whether its NLP, Computer Vision, and Deep learning. AI specialist would also likely serve as integrators that bring this applications into military context.”
- “Initial thought would be fundamental ad hoc model development or frontier model fine tuning to address workflow bottlenecks in military decision-making. A likely challenge will be ensuring sufficient domain knowledge of the warfighting functions and units to which they will be attached.”
- “For me an AI Specialist's Role would be to take data from data creators and build out logical ways for AI to handle that data. I think of their role today as yesterday's Knowledge Manager.”
- “I would assume an AI soldier would primarily be responsible for three categories: 1) unit training (training other members of the unit on how to properly employ AI and creating shared understanding of its limitations); 2) building AI models and employing AI prompts to support the commander; 3) conducting system maintenance, updates and working with signal and information technology MOS's

to ensure AI systems work as intended in the environment required by the particular unit.”

- “In today’s Army, I believe the role would be to maximize efficiency on war gaming scenarios and readiness for the battlefield. I’m not sure what echelon they would be serving in, but it would make more sense to be at the user level to gain real world problem solving sets.”
- “A new AI Specialist in the Army would likely operate at the intersection of data, technology, and mission support. Day to day, I imagine this Soldier working closely with commanders, analysts, and technical teams to turn raw information into actionable insights. Their tasks wouldn’t just be about “building AI,” but about applying it in ways that directly enhance readiness, decision-making, and operational efficiency. Much of their routine would probably involve managing and preparing data. They might help maintain or fine-tune existing AI systems that support intelligence analysis, logistics forecasting, maintenance prediction, or cybersecurity monitoring. When new problems arise, the AI Specialist would help determine whether AI is the right tool, identify the data needed, and prototype solutions that can be tested in real-world Army environments. I also see this Soldier acting as a bridge between technical capabilities and operational needs. They’d translate complex AI concepts into practical recommendations for leaders, troubleshoot issues with deployed models, and ensure systems remain reliable and ethical. In many ways, their role would be part technician, part analyst, and part innovator - constantly adapting AI tools to solve emerging challenges across the force.”
- “I think the role of the AI specialist is to inform commanders and leaders on where AI is lacking and where it excels in automating tasks that take a lot of time and make sure the unit is not over reliant on AI but it also using it to the fullest extent possible where it makes sense. I think they should also pitch solutions and frameworks for how AI can make tasks more effective whenever possible.”
- “My initial view of an AI Specialist within my organization is a role centered on developing system improvements, rigorously testing those enhancements, and validating their effectiveness before they are implemented across the organization.”
- “An AI Specialist would work with large amounts of data, build machine learning models, and create systems that help Soldiers analyze information faster. For

example, AI could help analyze intelligence data, identify patterns, or automate routine tasks. Their goal would be to help commanders and Soldiers make better and faster decisions.”

- “When I first read on the news that was becoming a thing, I worried about us stovepiping AI instead of integrating it across all roles (“oh I don’t do AI, that’s the AI guy’s job”) but after a little reflection, I think they could have some important roles in data validation (“what is the quality of the data we are feeding into these models?”), a training and process/system improvement role (like how commercial AI vendors have sent trainers to large organizations to identify how agents can be integrated into their existing workflows), adversarial testing (“can I stress test our use of AI, find and fix how it’s going to fail”)
- “As a CO CDR currently, I would have them work on our training meeting slides and calendars, consolidating calendars across the many different places they are hung. Also creating rules to predict OER/NCOER/Awards due”
- “The AI Specialist should be able to use systems to process large amounts of data to ultimately support commander’s visualization of the battlefield, the formation, readiness, etc. The AI Specialist will accurately understand the large amount of information required for the commander to make informed decisions on behalf of the organization.”

Teamwork and Collaboration

- “I think an AI Specialist would fit into the Army team, by holding train the trainer sessions. They would probably be most beneficial integrating with the S6/G6.”
- “AI Specialists should be closely involved in the acquisition process and fielding.”
- “As a cyber capabilities developer and cyber operations sergeant, AI specialists would be closely tied in for deploying AI software. Model poisoning and LLM vulnerabilities are also a concern and specific domain knowledge about how models are exploited will be important for defense.”
- “They would work to improve fleet readiness and maximize the tools available to manage predictive logistics and predictive maintenance. This AI specialist would have to work closely with all staff functions to connect relevant data across the organization to generate homogeneity in AI tool implementation and use.”

- “An AI Specialist would fit in an S3 shop in the Army. They would fill the Knowledge Manager role.”
- “In my capacity as an intelligence officer, I would likely want to work extensively with an AI specialist to effectively employ AI software to conduct enemy analysis, evaluate trends and patterns in the environment, conduct intelligence preparation of the operational environment, and plan information collection operations.”
- “I see them fitting in within the Chief Warrant Officer Corps due the SME aspect of AI and machine learning knowledge. I am a CM officer. I see this new MOS bridging the gap of implementing systems to keep Soldiers as far away from the CBRN dangers by using robotic decon apparatuses or mobile detection devices. Many of which are already created.”
- “In my view, an AI Specialist would become a force multiplier across the full spectrum of targeting - lethal and non-lethal - by integrating data and effects from every warfighting domain. Within a targeting cell, they would help synchronize air, land, sea, cyber, and space capabilities to create the best possible effects in support of the commander’s intent. Working alongside my MOS, the AI Specialist could rapidly fuse multi-domain intelligence, identify patterns, and recommend weaponeering solutions based on ongoing combat assessments. Their ability to process large datasets would help refine target selection, anticipate second- and third-order effects, and ensure that recommended actions align with both operational objectives and legal/ethical constraints. They would also collaborate with sustainment and logistics elements by forecasting Class V requirements based on operational tempo, expected target sets, and historical expenditure rates. This kind of predictive modeling would help ensure ammunition availability is never a limiting factor during operations. In the air domain, the AI Specialist could support airspace coordination by helping deconflict fires, anticipate flight paths, and reduce clearance timelines. At the same time, they would work with cyber and space units to integrate non-kinetic effects - such as electronic attack, cyber disruption, or space-based ISR - into the overall targeting process. Ultimately, the AI Specialist would serve as a connective node across the joint force, enabling faster, more precise, and more synchronized effects. Their collaboration with intelligence analysts, fires cells, cyber teams, space operators, logisticians, and airspace managers would ensure that every recommendation is grounded in data, aligned with the commander’s intent, and optimized for operational success.”

- “As an Army engineer, I think AI could assist with demo calculations and planning defenses. AI could assist planning defenses and breaching operations by synthesizing known enemy capabilities and known US capabilities for countering them. I think they would need to collaborate with all MOSs at whatever echelon they are assigned.”
- “I can see an AI specialist working closely with my MOS by gathering feedback and validated data from daily 94CMF tasks and Electronic Maintenance System operations. Their involvement could support the development of more advanced troubleshooting and diagnostic procedures for our assigned equipment. Other units and roles that would naturally interact with this capability include the Signal Corps, particularly the 25 series MOS. Their responsibility for maintaining and supporting network infrastructure makes them essential partners in enabling AI driven solutions.”
- “AI Specialists would need to work closely with cyber teams, intelligence analysts, signal units, and data engineers. In relation to my MOS 170D, they could support cyber operations by developing AI tools that help detect malicious activity or analyze large datasets. Collaboration is important to ensure AI systems support real operational needs and work with existing Army systems.”
- “I don’t know about my MOS. My MOS definitely has spots where AI will be very helpful but I don’t know how the specialist will plug in. We do a lot of cultural and foreign language based work which can be great for AI but I don’t know how the specialist fits in unless they are an AI expert AND expert in the cultural/language components (i.e., to allow finetuning or other nuanced/high complexity work). For other MOS, Definitely logistics and ORSAs jump to the front of my mind. Also any MOS that is very heavily computer based (e.g., S1).”
- “They would work with my maintenance team to anticipate parts needed and the parts flow process for repair”
- “In my particular MOS, an AI specialist will enable SOF elements to map the human dimension of partners, adversaries, and allies, and navigate the information from the space and cyber domains to better understand the operational environment. the AI specialist will help SOF personnel produce messages from PSYOPs, understand critical infrastructure, and help program autonomous and unmanned systems to help SOF be true combat multipliers.”

Impact and Placement

- “Brigade and higher level staff would be most beneficial. However, when Special Staff Officers are held at higher levels a lot of times information does not get passed down to the Company level. So, there could be an information gap. IOT mitigate this the Army should look at developing an AI producing course so lower level NCOs and Officers could bridge this gap.”
- “AI needs to be developed and employed at an enterprise level to justify costs and ensure standardization. Therefore, AI Specialists should be where the solutions to requirements are developed.”
- “At the company levels, I think that this MOS will fit in well with drones and drone operators. We’re also seeing cyber operators utilizing agents for automating workflows already. At the battalion and brigade levels, AI could be used to aid in command decisions and assist in administrative tasks.”
- “This MOS must be at the battalion and above. This will help each tactical unit more uniformly align with CDAO guidance.”
- “Battalion level would likely provide the best fit as the first point of major data collection for an organization. This would allow for a more seamless collection of information at the lowest level under the professional staff level. Data feeds capabilities. The adage, garbage in is garbage out, requires a touch point in an AI Specialist at the Battalion level. The largest challenge I see going forward would again be gathering data that is true and accurate. AI is only going to be able to adjust and provide clarity to Army Users at the level senior leaders want it if the leg work is completed upfront.”
- “I think the lowest level this MOS would be effective would be the Battalion, where they can integrate into the staff to support operations planning but would still be available to conduct training with subordinate leaders at the tactical level. Echelons Brigade and above would also benefit, as the amount of data that requires processing increases at each level.”
- “I think there needs to be NCOs, Officers and Warrants to be at every echelon.”
- “I see this MOS fitting best at the division level. Division is the Army’s principal tactical warfighting formation, and it’s the echelon where the volume, diversity,

and tempo of data truly demand advanced AI support. At this level, an AI Specialist can integrate information across brigades, joint enablers, and multi-domain partners to give commanders a more accurate and timely operational picture. The key advantage this role brings is the ability to reduce the amount of slow, error-prone human interaction required to process information. By building models that pull data from all sources in real time - ISR feeds, fires networks, sustainment systems, cyber sensors, and space-based platforms - they can deliver decision-quality information faster than any staff process alone. This directly shortens the time between target acquired and target actioned, allowing us to make decisions faster than the adversary and maintain the initiative. At division, these AI-driven insights can enable deep operations, prioritize effects across multiple brigades, and synchronize lethal and non-lethal targeting at scale. The result is a formation that can sense, understand, and act at a tempo that humans alone simply can't match."

- "I think the AI MOS should have an rep at the BN level and at the company level. Challenges would be not having something "to do" all the time and getting all the other extra duties placed on them. For example, DTS, SFRG, UMO, etc. The biggest benefit is that company would be more effective having an AI MOS tied in at the company level that can interface with the BN rep to make sure that the "inputs: that BDE/BN are using are being mirrored at the company and below level so each echelons AI is on the same page to avoid confusion when providing and interpreting data."
- "I see this MOS as highly applicable at both the Field and Sustainment levels, from Division down to Company. It also aligns strongly with Supply and Logistics functions. The greatest value, in my view, comes from leveraging a system capable of analyzing historical data and forecasting potential scenarios. This predictive capability would significantly reduce operational disruptions and enhance the overall effectiveness of our military operations."
- "AI Specialists could be most effective at the battalion or brigade level, where they can support cyber, intelligence, and planning teams. The biggest benefit would be faster analysis of large amounts of data and improved decision-making. However, challenges may include ensuring reliable data, secure systems, human factors and proper training for Soldiers using AI tools."
- "I think AI will likely become integral to literally every MOS and work function, like how a computer or word processing is needed but >10x that impact. What I

don't know is where the specialty MOS would fit in. I would guess at the battalion level or higher to advise on how to integrate AI into the organization's work flows. I was going to say wherever ORSAs work but I think AI specialists need to go even lower because it makes ORSA level analysis that much more accessible without specialized training."

- "I could see them fitting in best at the BN or BDE level, especially in logistics. Though you can't predict everything with AI, building a solid LOGSYNCHMAT with AI and predictive analysis is very beneficial so that you can adjust a plan already in place rather than build it on the fly"
- "I think the AI specialist needs to be at the O-6 command level with touchpoints down to the Company and below. The benefits are unlimited. Challenges will be ubiquitous implementation of solutions."

Appendix H. Course Survey

Feedback was collected via two Microsoft Forms instruments administered at the close of the Spring 2026 session. The exact question text of each instrument is reproduced below.

E.1 Quantitative Survey

1. How familiar are you with artificial intelligence & machine learning? (*Not at all / Slightly / Somewhat / Very / Extremely*)
2. The presentations and course materials were well organized. (*Strongly Disagree – Strongly Agree*)
3. The presentations and course materials explained the course concepts effectively. (*Strongly Disagree – Strongly Agree*)
4. The presentations and course materials were interesting. (*Strongly Disagree – Strongly Agree*)
5. The course gave me confidence to do more advanced learning (or understand more advanced concepts) in the area. (*Strongly Disagree – Strongly Agree*)
6. The course gave me confidence to inform others about what AI systems can and can't do. (*Strongly Disagree – Strongly Agree*)
7. The course gave me confidence to ask better questions about AI and AI systems. (*Strongly Disagree – Strongly Agree*)
8. The instructors were enthusiastic and knowledgeable about the course material. (*Strongly Disagree – Strongly Agree*)
9. My overall evaluation of the course is excellent. (*Strongly Disagree – Strongly Agree*)
10. My overall evaluation of the instructors is excellent. (*Strongly Disagree – Strongly Agree*)
11. I would highly recommend this course to others. (*Strongly Disagree – Strongly Agree*)
12. Anything that you wish to add about the quantitative course feedback? There is also a qualitative (long text) course feedback and final reflections form. (*open response*)

E.2 Qualitative Survey

1. Please describe your background and describe how familiar you were with AI and machine learning before participating in this course. What motivated you to take this course, and what did you hope to learn?
2. What have you liked about the course? What should absolutely not be changed about the course? What were the things that impressed/interested you the most, and what did you find most helpful?
3. How could the course be improved? What would you have liked to have seen in the course, but didn't?

The qualitative instrument additionally included three closing reflection questions tied to the Spring 2026 AI Specialist MOS discussion exercise (Section [2](#)), asking participants to reflect on how their perspective on an AI Specialist's role, its integration into Army units, and the future of AI in the Army had changed over the course of the week.

Appendix I. Course Feedback Comments

The following comments are reproduced verbatim from the Spring 2026 qualitative course feedback survey and from the open-response field of the quantitative survey. In a few cases, a colloquial reference was clarified to its formal name, with the addition or change surrounded by brackets. Six participants completed the qualitative survey; response order is preserved across subsections but responses are not attributed to individuals.

F.1 Background and Prior Familiarity with AI/ML

Please describe your background and describe how familiar you were with AI and machine learning before participating in this course. What motivated you to take this course, and what did you hope to learn?

1. “I have a BS in Applied Mathematics (18 years ago) and had no previous experience with AI, aside from a Data Literacy course that briefly introduced the topic a month before this seminar. I initially approached AI with skepticism and wanted to learn more about what it is and how to use it effectively. I was pleasantly surprised by the instructors’ transparency regarding the limitations of AI and the cautions to keep in mind when working with it.”
2. “I am a software developer and I have worked on creating AI applications using LLMs. I also am a student working toward a Master of Artificial Intelligence so I have a solid understanding that goes beyond what this course taught throughout the week. I was hoping to gain more perspective on ARL itself, how other individuals in the Army use AI, and to reinforce my understanding of AI.”
3. “I have been using AI (ChatGPT and Gemini) to help me understand new concepts I was learning in the Army and to improve spreadsheets / processes within my organization. I was excited to take this course to learn about better utilization of AI, AI prompts, and what tools were out there that I wasn’t already using. I was most surprised to learn what AI is not, which drove my understanding of how to best incorporate AI within my workspace.”
4. “I am a Captain in the Army Engineer Branch. I am currently a project engineer for a United States Army Corps of Engineers district. Before the course, I used generative AI to search for construction codes and edit contract correspondence.”

5. “No background with machine learning previously. I understand that AI is an integral part of society and I want to be prepared to implement it into my formation. I was surprised to see the challenges of incorporating AI into the military (where we actually are with AI compared to what is projected in news, social media, etc.).”
6. “My background is Infantry, Field Artillery, and PSYOP branch. My educational background is a B.S. in Criminal Justice and an MBA. I had a foundational understanding of AI and ML from a business application perspective in an education setting. I am also exposed to a lot of third-party tools that advertise the integration of AI and am a regular user of commercially available tools.”

F.2 What Participants Liked About the Course

What have you liked about the course? What should absolutely not be changed about the course? What were the things that impressed/interested you the most, and what did you find the most helpful?

1. “I liked the explanation about what is at the heart of AI and showing simply what it is doing. While some might find this portion a little dry, I do feel it is necessary to show what is actually happening. I appreciated the math, the videos, and the examples of how it can be applied to assist Soldiers. I liked learning the terminology as well as how to use the tool in a responsible manner.”
2. “I enjoyed seeing the different applications that are being developed at ARL and what the potential applications are for the future in the military. The most helpful part was working with others to understand how they see AI and what their perspective is about how AI will help them in their job roles.”
3. “I loved the small class size allowed for ease of making connections. The enthusiasm of the instructors was contagious! It was a lot of course material, but it felt exciting to learn because of how invested the instructors were in showing us these concepts. I was impressed on Day 4 when we got to tour the facility and learn of the research/projects being done. Also, LOVED the Excel spreadsheet for tactile learners like myself. The capstone project is a must keep

and highly recommend grouping everyone so there is variety in knowledge set, backgrounds, and duty location, which allowed us to implement what we were learning in class but also strengthen connections with classmates.”

4. “I liked how the course taught the math behind the AI. However, I think either simplifying it more or slowing down a lot more so we could follow along on the spreadsheets would have made it even better. . . I liked the catered meals and snacks! I also liked seeing the [Army Research Laboratory] facilities and the Graces Quarters trip.”
5. “Instructors very knowledgeable. I found viewing the actual technology the most interesting. It helped me to know where we are at with AI and how to better implement it into my formation.”
6. “I like the background in the AI/ML field as a scene setter for the week. This is the most accessible and detailed explanation I have ever received. Seeing the [Robotics Research Collaboration Campus] and [Army Research Laboratory] facilities was great to understand the context of current research methods.”

F.3 Suggestions for Improvement

How could the course be improved? What would you have liked to have seen in the course, but didn't?

1. “The course is a success as is. As stated earlier today, add a brief introduction to ARL. I would focus a little bit less on the rules-based AI, the same amount on the current AI/ML, the same amount on LLMs, then add a little time for group work on the capstone, or in-class discussions about possible uses of AI or maybe even where they think AI will be headed.”
2. “Future iterations should refine the target audience to determine the purpose of the course. If the purpose is to appeal to a technical audience or individuals that wish to learn more of the technical aspects of AI, then the course curriculum should reflect that. Similarly, if the purpose is to remain broad and give a general understanding, it may be helpful to turn back some of the mathematical rigor. Some individuals had an easier time than others following along.”

3. “Course could be improved if one of the key objectives becomes ‘making connections.’ This would facilitate the subtasks of classroom introductions and capstone project breakouts. . . Another recommendation is to have read-aheads. Speaking for myself, I am a visual and tactile learner, so having documents I can follow along with and digest on my own time helps with my understanding of new concepts. Last recommendation, if you can’t do read-aheads, send out YouTube videos or maybe a NotebookLM-generated podcast of the concepts you will be teaching throughout the course. Overall, great course with amazing instructors! Would love to take it again and will absolutely be recommending it to others!”
4. “I think the idea of breaking up the large group at Graces Quarters was a good idea. Additionally, if the presenters didn’t have PowerPoint and tried to make the demonstration more hands-on, that would have been more effective. I also think a small amount of time for the capstone to meet within the day would have made the capstone more effective. I also think starting the week with the tiers of development and where ARL fits into the larger Army would have benefited me greatly.”
5. “More hands-on and site visiting.”
6. “I would like to have seen more AI efforts throughout the technical readiness levels. It was challenging to conceptualize the successful integration of some efforts that were still within TRL 1–2. I understand at a specific TRL, projects leave ARL, so it would be interesting to see more participation from AFC and DEVCOM.”

F.4 Final Reflections on the AI Specialist Role

Collected as part of the same qualitative survey, these responses reflect on how participants’ understanding of a prospective Army AI Specialist role evolved over the course of the week, complementing the initial reflection exercise described in [Section 2](#).

1. “I now see the possibilities of using AI. I will likely use it to summarize large documents and proofread emails. Knowing what it can do, I will try to find other ways to implement it.”

2. “I hadn’t really considered the broader aspects of the Army. I’m in a technical MOS, so I thought of AI specialists in technical roles like data processing, application development, and model building. However, I think there could be value in additional roles distributed throughout the Army that help automate work that is best suited for AI.”
3. “Specifically speaking to my own branch, an AI Specialist would be a great bridge for data-heavy staff functions that interpret a lot of data and could help build better systems to ease workload. Not much has changed; I think having an AI Specialist is a great way to modernize older processes and streamline how the various tools we currently use speak to each other.”
4. “I think an AI specialist will be most useful in challenging what is created by AI and by being skilled at prompt engineering, so leaders don’t need to spend time on that. They can just give an objective and intent to the AI specialist.”
5. “AI Specialist in the Army is vital. If we don’t incorporate this soon, we will be far behind the curve. They could assist with training Soldiers in formation and preparing for the next war.”
6. “As the field progresses, I believe we should have higher expectations of integrating tools that can provide more transparency in reasoning.”

F.5 Additional Comments (Quantitative Survey)

Anything that you wish to add about the quantitative course feedback?

1. “Read-aheads to be able to digest the material prior to and after course instruction. Overall great experience! Instructors got me excited to learn again!”
2. “During the DEVCOM visit, it would have been nice to see some additional parts and areas of the facility. Suggest reducing question time for some of the areas explored and incorporating more time into viewing additional areas.”
3. “I like the depth that the course intended to address, but the time available was not appropriate. I believe you can maintain the diversity of attendees (ranks and occupations) while also providing more preparatory material in

advance. There is a foundational understanding of data analysis and college-level mathematics needed to rapidly absorb much of the material that was presented on the first two days.”

List of Symbols, Abbreviations, and Acronyms

1LT	First Lieutenant
AI	Artificial Intelligence
AI2C	Army Artificial Intelligence Center
ALC	Adelphi Laboratory Center
ARCYBER	Army Cyber Command
ARL	Army Research Laboratory
CNN	Convolutional Neural Network
COL	Colonel
CPT	Captain
CW3	Chief Warrant Officer Three
DEVCOM	U.S. Army Combat Capabilities Development Command
DIESL	Distributed Information for Enhanced Squad Lethality
DoW	Department of War
GAN	Generative Adversarial Network
HQDA	Headquarters, Department of the Army
HRC	Human Resources Command
IATSD	Information, Autonomy & Teaming Sciences Division
INSCOM	U.S. Army Intelligence and Security Command
LTC	Lieutenant Colonel
MAJ	Major
MG	Major General
MILDEP	Military Department

ML	Machine Learning
MOS	Military Occupational Specialty
MSG	Master Sergeant
NCO	Noncommissioned Officer
NLP	Natural Language Processing
R2C2	Robotics Research Collaboration Campus
ReLU	Rectified Linear Unit
SGT	Sergeant
T2COM	U.S. Army Transformation and Training Command
USACE	U.S. Army Corps of Engineers
USAR	U.S. Army Reserve
USARPAC	U.S. Army Pacific
USASOC	U.S. Army Special Operations Command
USAWHC	U.S. Army Western Hemisphere Command
WO1	Warrant Officer One

1 DEFENSE TECHNICAL
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DTIC OCA

1 DEVCOM ARL
(PDF) FCDD RLB CB
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