U.S. Army Futures Command
AI and Agile Software Development Workforce Opportunities
Catalog FY2023

1. This catalog is intended to provide you with information on Fiscal Year 2023 - 2024 United States Army Futures Command, Emerging Technology Opportunities (AFC ETO): the Army Software Factory and Artificial Intelligence Technician programs. Followed by successful completion of academic portions of the respective program, candidates will receive an ASI, which will provide assignment opportunities for high demand, low density positions as an Emerging Technology Leader. Soldiers attending the Army Software Factory (ASF) program or the Army Artificial Intelligence-Technician (AAIT) program will require a minimum of 60-month service-remaining obligation upon graduation IAW MILPER 22-082.

The obligation is IAW AR 601-280 (Army Retention Program), 16 June 2021. B., AR 614-200 (Enlisted Assignments and Utilization Management), 25 January 2019. C., DA PAM 601-280 (Army Retention Programs Procedures), 16 October 2019. D., Director of Military Personnel Management Memorandum, Subject: “Exception to Policy to AR 614-200, paragraph 4-6 and Table 4-1, for Changes to Service Remaining Requirements for Training in Army Futures Command Emerging Technology Opportunities”, 3 December 2021.

This catalog is descriptive in nature and should not be interpreted as a regulation or policy. This information will assist you in determining your preferences in choosing a program. Qualifications, academic achievements, program sponsor guidance, and other key factors will be taken into consideration during selection. This catalog is for Active Duty personnel compo 1; separate announcements may be made for opportunities specific to National Guard or Reserve Soldiers and DA Civilians.

CONTENT:

a. U.S. Army Software Factory (Cohorts 6 and 7)

b. AFC Artificial Intelligence – AI Technician program (Cohort 4)

**TABLE 1 (Cohort Dates by Program)**

| Program | Location | Eligible to Apply | Application Suspense Date | Notification Date | Start Date | Training Length | Tour Length |
|---|---|---|---|---|---|---|---|
| Software Factory Cohort 6 | Austin, TX | PVT-MSG; WO1-CW4; 2LT-MAJ | 01 JUL 2022 | NLT 01 OCT 2022 | JUL 2023 | 12-18 Months | 36 Months |

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|---|---|---|---|---|---|---|---|
| Software Factory Cohort 7 | Austin, TX | PVT-MSG; WO1-CW4; 2LT-MAJ | 31 OCT 2022 | NLT 15 MAR 2023 | FEB 2024 | 12-18 Months | 36 Months |
| AI Technician Cohort 4 | Pittsburgh, PA | SPC-SSG; CW2-CW3; 1LT-MAJ | 31 Oct 2022 | NLT 15 MAR 2023 | JUL 2023 | 12 Months | 36 Months |

2. General guidance for applicants of AFC Emerging Technology Opportunities

a. You are not eligible to compete if:

(1) You will be a student during the time your requested program is in session.

(2) You owe or will not complete an incurred utilization assignment by the start of your requested program.

(3) You do not have 12 months on current station prior to start date of selected program.

(4) You are currently on Assignment Instructions or a Request for Orders to PCS (excluding PME that concludes prior to the start date of program).

(5) Not able to meet service obligation requirements due to remaining time in service eligibility (e.g., MRD, RCP, etc.).

(6) You have derogatory information in the performance section of your permanent records within the past three years or a Type I offense (IAW HQDA EXORD 193-14, Annex B) at any point.

b. Applicants are responsible for updating their iPERMS account and record brief.

c. The application for each program that you are applying for must be submitted through the Army Software Factory website or the AI2C website. Additionally, all references must be submitted through the portal. References from previous applications will not be considered.

d. All must follow the AFC-ETO application process outlined in the individual program input below.

e. Applications or information received after the suspense date will not be accepted or included in the application packet. Any application packet that is not complete, as defined in this catalog, may result in missing the submission suspense date and candidate may not be considered for the opportunity.

3. How to apply: The submission requirements are listed below, and must be submitted through the organizational websites list in paragraph 2c by the submission deadline in Table 1 (Cohort Dates by Program). You MUST notify your assignment manager when submitting your application. Components of the application are outlined below

a. Online application, which includes the cover sheet, resume (in a prescribed format), and self-certification.

b. Letters of recommendation (LOR) **Minimum of three and a maximum of five**. One LOR must be from the current commander or O-4 or above OIC. One must be from a superior (can be the current commander/OIC); one must be from a peer; one must be from a subordinate (if E-4 or below and have never supervised, then someone who can speak to your technical acumen). Your references will need to input your DoD ID number when filling out the form. References should submit their recommendations through the applicant portal site, listed above. Recommendations in other formats will not be considered.

c. Soldier Record Brief, or Selection Board Record Brief (attached to the online application).

d. Most current Army height/ weight record (within the past six months) (attached to the online application).

4. AFC POC: CPT Nicholas Garcia at nicholas.j.garcia51.mil@army.mil.

## U.S. Army Futures Command – Army Software Factory

(Austin Community College Rio Grande Campus, Austin, TX)

1. Program Description:

a. Overview. The Army Software Factory Program is an immersive, in-person software development program in Austin, Texas. It consists of three phases with a total length of approximately 36 months. The Army Software Factory collaborates with academic and industry partners to execute this program. The program is open to all grades and occupational specialties of Soldiers as well as DA Civilians. The program is focused on arming Soldiers and Civilians with modern software skills to solve Army problems using software while harnessing the innovative spirit of the USA.

(1) The program is designed to attract approximately 30 participants for each cohort. This announcement is for Cohort Six (starting July 2023) and Cohort Seven (starting February 2024). Participants will be assigned to one of the following tracks: software engineering, user interface / user experience design, or product management. The first phase consists of a four-to-five month technical accelerator (aka a technical boot camp) to build foundational skills for the selected track. The second phase is up to 14 months. In this phase, product teams are formed within the cohort and each participant is paired with a subject matter expert to further develop the foundational skills built in the first phase. The teams use agile software development processes and Soldier-centered design to scope and solve existing Army problems via full-stack development. This phase is complete based on meeting the standard to attain the ASI. The end of phase two also marks the end of the “training portion” of the program and is used to calculate the service obligation. The third phase is the steady state product development phase, where teams continue to work on software solutions, rolling it out to the Force and iterating as needed. This phase will include collaborations with industry and/or academia. The third phase may also include a short internship with local industry partners. A select group of participants will also become the subject matter experts for the second phase of future cohorts.

(2) Commanders and supervisors are also encouraged to submit their best candidates for this prestigious opportunity based on the outstanding potential and aptitude for service in the emerging technology environment.

(3). In accordance with the Secretary of the Army’s Memorandum dated 29 MAY 2020, AFC will oversee the development and operation of this new initiative.

b. Purpose. The Army Software Factory’s mission is to prototype a future force design while upskilling the Army’s technical competencies and to simultaneously serve as a case study to modernize Army-wide legacy IT processes in order to enable dominance on the battlefield of the future. Supporting this mission are three enduring lines of effort outlined below. The end state is to provide the Army with a scalable organic capability that enables Soldiers and Civilians to scope and develop

software with maximum autonomy at the edges of the battlefield without undue reliance on contracted support while forging positive change across a series of legacy processes. Lines of effort are:

(1) Increase digital proficiencies across the Force, enabling Soldiers and DA Civilians to dominate an information-centric battlefield.

(2) Solve current Army problems by leveraging Agile, DevSecOps cybersecurity practices, and cloud technology.

(3) Harness the innovative spirit of the country through the close collaboration with industry and academia.

d. Tracks. There are three tracks participants can apply for, as described below.

(1) Product Manager: Product Managers are charged with balancing user needs, organizational outcomes, and technical feasibility in order to build value quickly while still considering the big picture. Our teams are flat and balanced, with Developers, Designers, and Product Managers working in concert, empowered to build the software we know our soldiers need. As product manager you will write user stories to describe new features Designers have identified through user interviews, oversee the product's backlog, and validate what the Developers have delivered. You work to keep the team unblocked and de-risked using hypothesis-driven development.

(2) User Experience / User Interface Designer: UX/UI Designers ensure application teams are building products that meet user needs. Sometimes referred to as an “Empathizer in Chief”, UX/UI Designers act as the main conduit to the user. Designers cover a wide variety of skills to be successful including user research, experience and interaction design, as well as visual design. By practicing Soldier Centered Design (SCD), designers act as an intelligent filter for user feedback and ensure that their teams tackle the highest user priorities. As a part of a Balanced Team with Product Managers and Engineers, designers work collaboratively with their teammates to determine design priorities, refine a backlog and roadmap, and validate the technical complexity of their designs.

(3) Software Engineer: Software Engineers design, develop and deploy apps with a focus on high availability, low latency and scalability. Software Engineers implement user stories from the backlog and write tests before they write production code. Testing first gives engineers confidence and ensure software is free of bugs or security vulnerabilities. Since engineers work with a balanced-team approach, they provide inputs on complexity and architecture decisions to the product team members. Software Engineers also practice eXtreme Programming (XP), in which pairs of engineers work together on the same line of code to share context and knowledge transfer.

d. Program Outline. Below is a tentative schedule for the program. AFC will design the final syllabus and schedule for the program in consultation with relevant stakeholders to best fit the needs of the participants and the U.S. Army. The overall concept is outlined in the figure below.

(1) Phase 1: Technical Accelerator**.** The pipeline begins with a four-five-month (approximate) technical accelerator for each track.

(2) Phase 2: Product Teams**.** 1-on-1 vendor/SME-led pairing begins immediately following the technical accelerator. This methodology is akin to learning a foreign language by pairing with someone who is extremely proficient in all elements of that foreign culture. In this phase participants are broken out into product development teams of approximately five-six personnel or join the platform team. The product teams consist of a Product Manager (PM), User Interface / User Experience (UI/UX) designer, and software engineers. Each cohort member pairs with a full-stack software engineer, UI/UX designer, or PM trained in enabling others to learn. The focus is not on academics, but rather on learning while solving an important Army problem. This pairing can last up to 14 months and is based on each cohort member's individual progression. The cohort members operate as part of a modern software team to learn both coding and the right way to scope and manage agile software projects. Throughout this time, the participants develop software, conduct consultant-like site visits across the Army to scope the problem and iterate solutions, and develop a lasting software solution that solves an Army problem with the highest level of modern rigor.

(3) Phase 3: Sustained Factory. At the conclusion of the pairing experience, Army team members are now highly proficient in modern software development. They have accrued 12 to 18 months of cumulative academic and project experience. At this point they become a core member of the Software Factory and continue to work on problems and develop software solutions for the Army. This phase includes collaboration with startups and/or academia for mutually beneficial co-development. It may also include short-term internship opportunities as proffered by local tech stakeholders (primes, start-ups, and non-traditional entities in the Austin area). The overall objective is to take a Soldier or Civilian from the "regular Army" and get them acclimated to modern software engineering. Cohort members are now able to teach others and augment other teams as needed. Select cohort members will become the paired expert for future cohorts during phase two as the program sets the conditions to transition from the vendor-led pairing to Army-led pairing. After a total of 36 months, participants embark on a utilization tour to continue employment as software development teams.

2. Selection Process:

a. All applications will be reviewed by a diverse board. The top applicants will be invited for a behavioral and technical interview. This may be virtual or in-person. There

may be additional assessments as required. None of the assessments require expert knowledge in the specific tracks. However, research on the various tracks within the Army Software Factory is highly recommended.

b. Final OML and selection is built in coordination with HRC and to consider diversity of rank, MOS and skillsets and other factors.

3. Program Tenure/Location:

a. During the Army Software Factory Program, cohort members will be assigned (via PCS) to the U.S. Army Software Factory in Austin, TX, with an in-person work location at the Austin Community College Rio Grande Campus.

b. The Army Software Factory is not co-located with a typical garrison support structure. All Soldiers will live in the economy with BAH levels for Austin, TX. Additionally, there are not typical support items such as Military Treatment Facilities, Child Development Centers (CDC) or Army Community Services (ACS) within AFC or Austin, TX. This is a voluntary opportunity and you should consider these factors before applying to the program.

c. All fellows will be offered follow-on utilization opportunities provided successful completion of the program.

d. Follow-on Assignment Opportunity Detail. This assignment is expected to be similar in nature, where Soldiers and Civilians work as part of a software development team building software solutions for problems within the Army.

4. Eligibility Criteria:

a. Officers and Warrant Officers:

(1) Meet the additional criteria in paragraph 4, c below.

b. Noncommissioned Officers (NCO) and Enlisted:

(1) All applicants must have completed all requisite levels of NCOES for their rank to include their distributed leader course.

(2) Applicants are still eligible for consideration under the qualitative service and qualitative management program.

(3) GT score of 110 or higher.

(4) Meet the additional criteria in paragraph 4, c below.

c. All Candidates:

(1) Active Component Soldiers, rank and MOS immaterial.

(2) Meet Army height and weight requirements and be in excellent physical condition.

(3) Not be pending any adverse actions or be at risk for promotion.

(4) Have extraordinary potential for future Army service.

(5) Have interpersonal skills and the ability to interact and form relationships with individuals from diverse backgrounds.

(6) Be able to begin the Army Software Factory (Emerging Technology Opportunity) on or about 09 July 2023 for Cohort 6 and on or about 09 February 2024 for Cohort 7.

(7) Currently have or are able to obtain a SECRET security clearance.

5. Software Factory POC: Jamie L Protte at jamie.l.protte.civ@army.mil.

## AFC Artificial Intelligence Integration Center– Artificial Intelligence Technician Program

(Carnegie Mellon University, Pittsburgh, PA)

1. Program Description:

a. Overview. The Army Artificial Intelligence Technician Program is an immersive 36-month program that combines a 12-month Artificial Intelligence Cloud Administration, Programming with Python, Data Engineering and other certifications at Carnegie Mellon University in Pittsburgh, Pennsylvania with a 24-month hands on experience, project based learning with the Army Artificial Intelligence Integration Center (A2IC). The program seeks service members who have demonstrated outstanding promotion potential. Officers (commissioned / warrant) and noncommissioned officers looking be the front-runners for preparing the operational force for AI-enabled capabilities are encouraged to apply for the AI Technician Program. Commanders and supervisors are also encouraged to submit their best candidates for this opportunity based on the outstanding potential and aptitude for service in the emerging technology environment.

b. Artificial Intelligence Technician Course Overview: Students will gain knowledge and develop hands-on experience solving real-world problems in:

(1) Cloud administration:

Includes process to provision, orchestrate, scale, manage and monitor cloud services across compute, storage, networking, and security using various cloud interfaces. Projects use existing public cloud infrastructure, tools, and services.

(2) Practical Programming with Python:

Includes types, variables, functions, iteration, conditionals, Python data structures, classes, objects, and modules. Learn several Integrated Development Environments (IDEs—IDLE), VS Code, Jupyter Notebook, basic Input/Output operations, and fundamental software development. Work on three larger applications - enterprise data manipulation (flat files, data stores), web application backend, and data analysis (visualization, matching).

(3) Data Engineering

Includes ingesting, egressing and transforming data from multiple sources using various technologies, services and tools. Develop skills needed to identify and meet data requirements of an organization by designing and implementing systems and data pipelines that manage, monitor and secure the data using the full stack of cloud services. Students explore and experiment with various storage abstractions such as SQL and NoSQL databases, data lakes and data warehouses to store, transform and draw insights from data.

(4) Cloud DevOps

Design and implement strategies for application and infrastructure that enable continuous integration, continuous testing, continuous delivery, infrastructure as code as well as monitoring. Students will leverage cloud technologies to design and implement solutions to version control, building, testing, release, provisioning, configuration, deployment, and monitoring.

c. Orientation and Academics. Selected participants begin with an orientation program, which prepares them for the Cloud Architecture course at Carnegie Mellon University. The curriculum exposes students to all aspects of Cloud Engineering. Participants will utilize experience gained to participate in artificial intelligence projects to familiarize them with programming, cloud architecture and data management. Candidates will be exposed to Army Futures Command's Modernization Enterprise to include visits to Cross Functional Teams and Army Labs within U.S. Army Combat Capabilities Development Command. Ultimately, candidates will be equipped for and understand "Big Picture" objectives of training the Army's Operational Force.

2. Selection Process:

a. The U.S. Army Futures Command (AFC) Fiscal Year 2023 Army Artificial Intelligence Center, Technical Selection Panel will convene Feb 2023 to select candidates to present to the Director, Army Artificial Intelligence Integration Center.

b. Applicants will be notified of the AFC Selection Panel results not later than 15 Mar 2023.

c. Final OML and selection is built in coordination with HRC and to consider diversity of rank, MOS and skillsets and other factors.

3. Program Tenure/Location:

a. During the AI Technician Program, Active Component participants are assigned to the U.S. Army Artificial Intelligence Integration Center at Carnegie Mellon University, Pittsburgh, Pennsylvania.

b. The U.S. Army Artificial Intelligence Integration Center is not co-located with a typical garrison support structure. All Soldiers will live on the economy with BAH levels for Pittsburgh, PA. Additionally, there are not typical support items such as Military Treatment Facilities, Child Development Centers (CDC) or Army Community Services (ACS). This is a voluntary opportunity and you should consider these factors before applying to the program.

c. Course work begins in August 2023 and completes August 2024. A required 24-month utilization tour begins August 2024 and ends August 2026.

d. Utilization Tour Detail. AI Technicians are the data wranglers, who make sure the information pipelines are working. AI Technicians solve real-world problems in the emerging technology environment.

4. Eligibility Criteria: (All are Non-Waiverable)

a. Active Component Company Grade Officers and Warrant Officers:

(1) Must have successfully completed at least one "Key Developmental Assignment" IAW DA Pam 600-3, for 1LT or CW2.

(2) Meet the additional criteria in paragraph 4, c.

b. Noncommissioned Officers (NCO):

(1) Active Component

(2) Hold the rank of Sergeant (SGT) (E-5) or Staff Sergeant (SSG) (E-6).

(3) All applicants must have completed all requisite levels of NCOES for their rank to include their distributed leader course.

(4) Applicants are still eligible for consideration under the qualitative service and qualitative management program.

(5) Meet the additional criteria in paragraph 4, c.

c. All Candidates:

(1) Active Component Soldiers, rank and MOS immaterial.

(2) Meet army height and weight requirements and be in excellent physical condition.

(3) Not be pending any adverse actions or be at risk for promotion.

(4) Have extraordinary potential for future Army service.

(5) Have interpersonal skills and the ability to interact and form relationships with individuals from diverse backgrounds.

(6) Be able to begin the AI Technician Program (Emerging Technology Opportunity) on or about July 2023.

(7) Able to meet the minimum 60-month service-remaining obligation upon graduation.

5. AI2C POC: Ms. Jacqui Coffman at jacqueline.m.coffman.civ@army.mil or Mr. Mark Phillips at mark.a.phillips98.civ@army.mil.