

U.S. Army Futures Command  
Emerging Technology Opportunities Catalog FY20-21

1. The information in this catalog is intended to provide you information on Fiscal Year 2021 United States Army Futures Command, Emerging Technology Opportunities (AFC-ETO): the Software Factory and Artificial Intelligence Cloud 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. Participants will incur an ADSO upon completion of education portion of the program. 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. Your qualifications, academic achievements, program sponsor guidance, and other key factors will be taken into consideration during selection.

CONTENT:

- a. U.S. Army Soldier Led Software Factory (Cohorts 2 and 3)
- b. AFC Artificial Intelligence – Cloud Technician program (Cohort 2)

Application Suspense Date	Program	AFC Selection Panel Dates	Eligible to Apply
15 October 2020	Software Factory Cohort 2	26-30 October 2020	AC: PVT-SFC/CW2-CW4/2LT-LTC
15 October 2020	AI Cloud Technician Cohort 2	26-30 October 2020	AC: SPC-SSG /CW2-CW3/ 2LT-MAJ
15 January 2021	Software Factory Cohort 3	15-19 February 2021	AC: PVT-SFC/CW2-CW4/2LT-LTC

Key: \*AC = Active Component or Regular Army

Program	Notification Date	Start Date	End Date
Software Factory Cohort 2	NLT 15 November 2020	June 2021	June 2024
AI Cloud Technician	NLT 15 November 2020	August 2021	July 2024
Software Factory Cohort 3	NLT 15 March 2021	January 2022	January 2025

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) Does not have 12 months on current station prior to start date of selected course.

(4) Currently on PCS orders with a report date prior to or within two months after selection date.

(5) Not able to meet 3 year ADSO requirement due to remaining time in service eligibility (e.g., MRD, RCP, etc.).

b. Applicants are responsible to update their IPERMs account, and record brief.

c. All college/university transcripts must be uploaded to your IPERMs file not later than the suspense date of your requested program. Evaluations not uploaded to IPERMs will not be accepted.

d. The application for each program that you are applying for must be submitted in the "Portable Document Format" (PDF) attachment. Do not attach PDFs inside of PDFs (portfolio format). If you do, your application will be returned without action until you submit the application in the correct format.

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

f. Only if you are applying for more than one program: The following statement (any format) must be submitted with your applications: "I understand if I am applying for more than one program, I may not receive my first preference and I further understand my selection or non-selection is determined by the selection panel's order of merit list (OML) of the program(s) I am requesting to compete for. I understand if I am selected to attend one of the program(s) I am competing for, I will not be considered for any other program and I will accept the program I was selected for." Your name/grade must be on statement. Title statement "Applying for More Than one Program."

g. Documents received after the suspense date will not be accepted or included into your application packet. Any application packet that is not complete, as defined in this catalog will be returned to candidate and may result in missing the submission suspense date and candidate may not be considered for the opportunity.

h. Must have a current security clearance or the ability to obtain a SECRET security clearance.

**U.S. Army Futures Command – Soldier Led Software Factory**  
**(AFC HQ, Austin, TX)**

1. Program Description:

a. Overview. The Army Software Factory Program is an immersive, in-person software development program in Austin, Texas. It is three-phases with a length of approximately 36 months. The software factory collaborates with academic and industry partners to execute this program. The program is open to all grades and occupational specialties of Soldiers and 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 two (starting June 2021) and cohort three (starting January 2022). Participants will gain skills in modern software development, including full-stack development, user interface/user design and product management. The first phase is six months and includes a four-month coding boot camp, where foundational software engineering skills are built, followed by a two-month internship with local industry partners. The second phase is six 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 to scope and solve existing Army problems in full stack web development. The third phase is the steady-state coding phase, where teams continue to work on their software solutions, rolling it out to the Force and iterating as needed. This phase will include collaborations with industry and academia. A select group of participants will also become the subject matter experts for the second phase of future cohorts.

(2) Upon successful completion of the academic portion of the program, candidates will receive an ASI which will provide assignment opportunities for high demand, low density positions as a software development team member. 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 29MAY2020, AFC will oversee the development and operation of this new initiative.

b. Purpose. The Army Software Factory has three main lines of effort outlined below. The end state is to provide the Army with an organic capability to enable Soldiers and Civilians from across the Army to develop software while simultaneously experimenting with changing technology offerings for our Soldiers. Lines of effort are:

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

(2) Use modern cloud and software technologies to solve Army problems through agile and secure software development processes.

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

c. 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: Coding Boot Camp. The pipeline begins with a six-month coding boot camp and premier commercial internship. Beginning with the coding boot camp experience ensures AFC can source participants from a much wider demographic than selecting only those with a pre-existing technical expertise (thus ensuring long-term solvency of the factory). Participants will receive training in modern object-based programming languages, website construction, databasing, networking, and cloud infrastructure engineering. Upon completion of the camp, selectees continue with short-term internship opportunities as proffered by local tech stakeholders (primes, start-ups, and non-traditional 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.

(2) Phase 2: Product Teams. 1-on-1 vendor-led pairing begins immediately following the coding boot camp. 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 personnel. The teams consist of a Product Manager (PM), User Interface / User Experience (UI/UX) designer, and software developers. 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. For six months, 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 participant’s code, conduct consultant-like site visits across the Army to scope the problem and iterate solutions, and develop a lasting software program that solves an Army problem with the highest level of modern rigor.

(3) Phase 3: Sustained Factory. At the conclusion of the six-month pairing experience, Army team members are now highly proficient in modern software development. They have accrued 12 months of cumulative academic, internship, and project experience. At this point they become a core member of the software factory and continue to work problems and develop software solutions for the Army. This phase

includes collaboration with startups and academia for mutually beneficial co-development. 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 24 months, participants return to the force to an assignment facilitated by AFC.

## 2. Selection Process:

a. The U.S. Army Futures Command (AFC) Software Factory selection panel will convene 26-30 October 2020 for cohort 2 and 15-19 February 2021 for cohort 3.

b. Applicants will be notified of the AFC Selection Panel results not later than 15 November 2020 for cohort 2 and 15 March 2021 for cohort 3.

## 3. Program Tenure/Location:

a. During the Software Factory Program, cohort members will be assigned to the U.S. Army Software Factory in Austin, TX.

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

c. The program begins approximately 18 June 2021.

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 supporting their Command in building software solutions for problems within the Command.

## 4. Eligibility Criteria:

### a. Officers and Warrant Officers:

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

(2) LTs/WO1s must have successfully completed Basic Officers Leaders Course / Warrant Officer Basic Course, not later than April 2021 for cohort two applicants and November 2021 for cohort three applicants.

### b. Noncommissioned Officers (NCO):

(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) 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 18 June 2021 for cohort 2 and on or about 18 January 2022 for cohort 3.

5. How to apply: The submission requirements are listed below and should be sent to the Army Software Factory group mailbox at: [usarmy.austin-tx.futures-cmd.mbx.afc-hq-software-factory@mail.mil](mailto:usarmy.austin-tx.futures-cmd.mbx.afc-hq-software-factory@mail.mil). Subject title of email "Last Name, Software Factory Application, Summer 2021" No Later Than 15 October 2020 for cohort two and 15 January 2021 for cohort three. You MUST cc your assignment officer when submitting your application. After an initial screen, you will receive an invitation for a phone call for an interview.

a. Cover sheet (see attachments)

b. Resume (any format) or AIMS2 resume with the following info: Name, current rank, mailing address, phone number, email address (civilian and military), brief description of military and/or civilian work experience with dates, education (include type of degree, degree major, dates attended, GPA, name of institution), computer programming experience (if any), special skills, interests.

c. Letters of recommendation (LOR) (submitted online at: [https://apps.rstudio.futures.army.mil/swf\\_reference/](https://apps.rstudio.futures.army.mil/swf_reference/)). Minimum of three and a maximum of five. One LOR must be from the current commander. One must be from a superior (can be the current commander); one must be from a peer; one must be from a

subordinate (if none, then someone who can speak to your technical acumen). Your references will need to input your DoD ID number when filling out the form.

d. Soldier Record Brief

e. Most current DA Form 705 (Army Physical Fitness Test Score Card) and DA Form 5500/5501 (Body Fat Content), if applicable

f. Self-certification statement (see embedded document)

6. Points of Contact:

a. Software Factory POC: Tirzah M. VanDamme at [tirzah.m.vandamme.mil@mail.mil](mailto:tirzah.m.vandamme.mil@mail.mil).

b. AFC POC: MAJ Joe Johnson, AFC Human Capital Directorate at [joseph.h.johnson7.mil@mail.mil](mailto:joseph.h.johnson7.mil@mail.mil).

**AFC Artificial Intelligence Center– Cloud Technician Program**  
**(Carnegie Mellon University, Pittsburgh, PA)**

1. Program Description:

a. Overview. The Army Artificial Intelligence, Cloud Technician-Master Gunner Program is an immersive 11-month program that combines Artificial Intelligence Cloud Administrator Certificate education at Carnegie Mellon University in Pittsburgh, Pennsylvania with hands on experience, project based learning with the Army Artificial Intelligence Center. The program seeks service members who have demonstrated outstanding promotion potential. Officers (commissioned / warrant) and noncommissioned officers looking to be the front-runners for preparing the operational force for AI-enabled capabilities are encouraged to apply for the AI-Technical Master Gunner Program. 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.

b. Purpose. Artificial Intelligence Cloud Technician-Master Gunner Program has 10 purposes:

- (1) Build and maintain cloud native container orchestrated systems.
- (2) Create, configure and manage cloud accounts and subscriptions
- (3) Configure/manage user/service identities and integrate with external identities.

- (4) Set and manage role-based access control (RBAC) based on specifications.
- (5) Configure, create, and manage cloud resources and set policies and access.
- (6) Create, configure storage accounts and resources, manage their access and monitor their usage. Create, configure, and manage virtual networks, subnets, firewalls, and IP addresses.
- (7) Configure and deploy load balancers.
- (8) Create, configure, manage and monitor virtual machines through cloud orchestration tools.
- (9) Orchestrate the deployment of cloud resources; manage lifecycle of resources.
- (10) Set view and analyze monitor metrics and alerts for cloud resources.

c. Orientation and Academics. Selected participants begin the fellowship with an orientation program, which prepares Fellows for academics on Cloud Architecture course at Carnegie Mellon University. The academic portion begins early August with a 14 week course on Cloud Architecture. The curriculum exposes students to all aspects of Cloud Engineering. Participants will utilize experience gained to participate in Artificial Intelligence projects to familiarize with Cloud Architecture and Data Pipelining. 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 2021 Army Artificial Intelligence Center, Cloud Technical "Master Gunner" Selection Panel will convene 25-30 October 2020 to select candidates to present to the Director, Army Artificial Intelligence Center.

b. Applicants will be notified of the AFC Selection Panel results not later than 15 November 2020.

## 3. Program Tenure/Location:

a. During the Cloud Technician-Master Gunner Program, Active Component Fellows will be assigned to the U.S. Army Artificial Intelligence Center at Carnegie Mellon University, Pittsburgh, Pennsylvania.

b. Course work begins in August 2021 and completes July 2022. Follow-on opportunity begins July 2022 and ends July 2024.

c. Follow-on Opportunity Detail. AI-Cloud Technicians will be the data wranglers, who make sure the information pipelines are working. They pull data off a system, clean and transform it, and make sure it's then usable by the data science personnel in the cloud. Focus on using cloud services to capture and process data.

#### 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 Cloud Technician Program (Emerging Technology Opportunity) on or about 1 August 2021.

5. How to apply: No later than 15 October 2020, email the following to [usarmy.austin-tx.futures-cmd.mbx.afc-ai-technical-programs@mail.mil](mailto:usarmy.austin-tx.futures-cmd.mbx.afc-ai-technical-programs@mail.mil) on "Portable Document Format" (PDF) attachment. You MUST "cc" your assignment manager when submitting your application. Subject title of email "Request to compete for the FY2021 Army Artificial Intelligence Cloud Technician Master Gunner Program":

a. Cover sheet (see enclosure)

b. Resume (any format) or AIMS2 resume with the following info: Name, current rank, mailing address, phone number, email address (civilian and military), brief description of military and/or civilian work experience with dates, education (include type of degree, degree major, dates attended, GPA, name of institution), computer programming experience (if any), special skills, interests.

c. Letters of recommendation (LOR) (submitted online at: [https://apps.rstudio.futures.army.mil/swf\\_reference/](https://apps.rstudio.futures.army.mil/swf_reference/)). Minimum of three and a maximum of five. One LOR must be from the current commander. One must be from a superior (can be the current commander); one must be from a peer; one must be from a subordinate (if none, then someone who can speak to your technical acumen). Your references will need to input your DoD ID number when filling out the form.

d. Soldier Record Brief

e. Most current DA Form 705 (Army Physical Fitness Test Score Card) and DA Form 5500/5501 (Body Fat Content), if applicable

f. Self-certification statement (see enclosure)

6. Points of Contact:

a. Army AI Center POC: LTC Aaron Pearsall at [aaron.d.pearsall.mil@usa.army.mil](mailto:aaron.d.pearsall.mil@usa.army.mil).

b. AFC POC: MAJ Joe Johnson at [joseph.h.johnson7.mil@mail.mil](mailto:joseph.h.johnson7.mil@mail.mil).