



SEI AI Workforce Development

Summary

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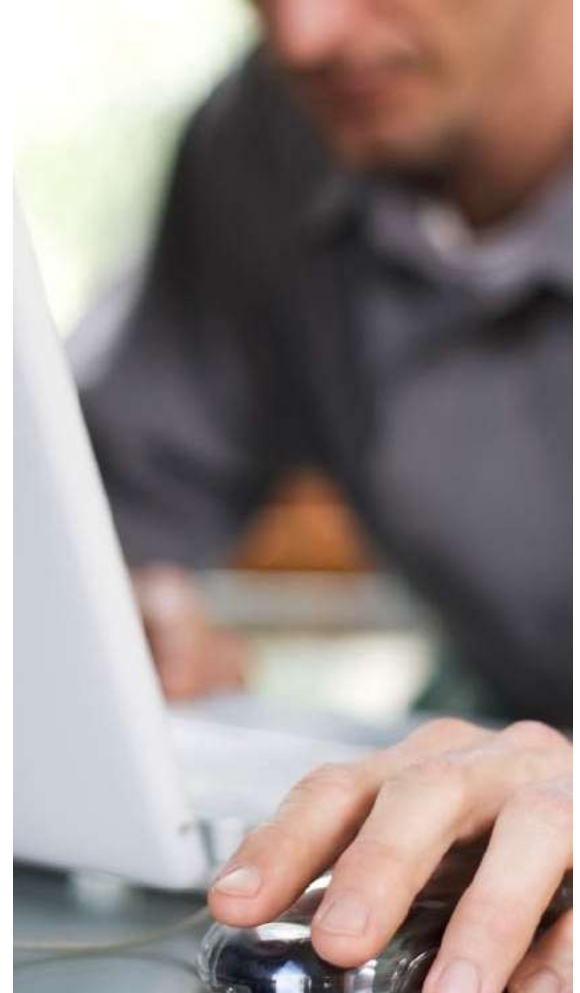
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AI Workforce Development Initiative

Alignment with DoD



Alignment with *CDAO mission and US Policies

CDAO Mission Statement

Create a digitally-savvy Department of Defense workforce to accelerate adoption and maximize potential of data and artificial intelligence.



2018
DoD AI Strategy



2019
DoD Digital
Modernization Strategy



2020
DoD AI
Education Strategy
(*NDA Section 256*)



2021 NSCAI
National Security
Commission on
Artificial Intelligence



2022
National Defense Strategy



2022
RAI Strategy and
Implementation
Pathway

*formerly JAIC

The Joint Artificial Intelligence Center (JAIC) developed the DoD AI Education Strategy to organize work roles and competencies









DoD AI EDUCATION STRATEGY

Cultivating an AI ready force to accelerate adoption

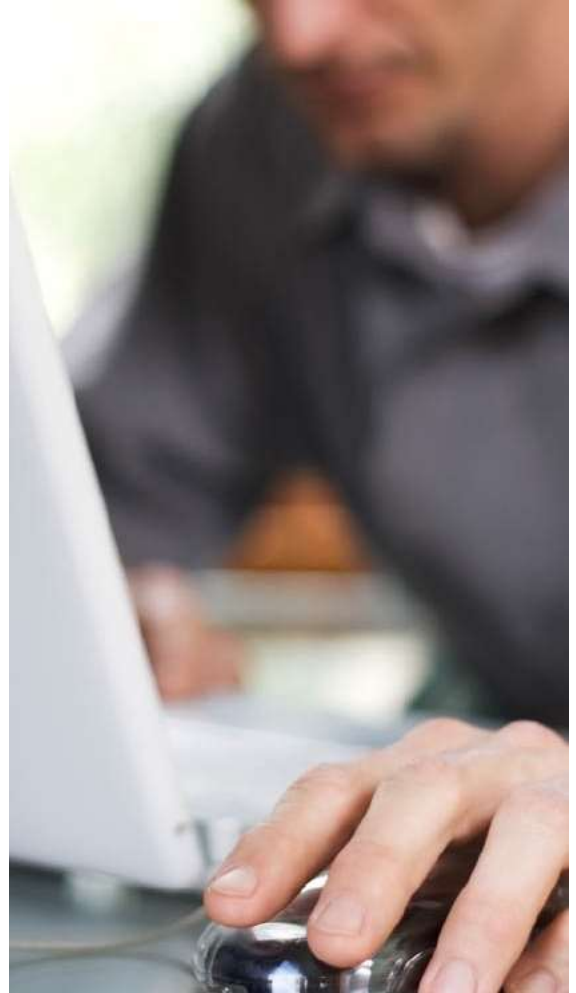


Thinking about course development, we align with the archetypes as defined by the DoD AI Education Strategy

Archetype	Description	Concentration	Role Explanation
 Lead AI	Decides policy and doctrine, including how AI tools can or will be used; builds AI vision and plan	Policy	• Creates overarching guidance on DOD AI use
		Command	• Ensures AI policy carried out by personnel they lead
		Agency/Function Lead	• Ensures AI policy carried out in non-combat agencies
		Acquisitions Manager	• Supports technology/capabilities through total life cycle
 Drive AI	Ensures appropriate AI tools and capabilities are developed and delivered across DOD	Capability Manager	• Evaluates and develops force structure resources and reqs
		Technical Manager	• Defines the tech strategy across a project portfolio
		Product Manager	• Ensures the creation of AI-enabled tools, from start to finish
		AI Researcher	• Pushes DoD AI capability by preparing for future use cases
 Create AI	Creates AI tools to meet current and future needs	AI/ML Engineer	• Builds, tests, codes, integrates, and delivers AI tools
		Testing & Evaluation Engineer	• Evaluates system capabilities, limitations, operational risks
		Data Scientist	• Applies AI tools to perform analytics and create solutions
		Deployment Engineer	• Manages integration, deployment, and operation of AI systems
 Embed AI	Embedded with Employ AI, establishes AI systems and provides end-user support at tactical edge	Technician	• Deploys, maintains, adapts, and collects data for AI/ML systems at the tactical edge
 Facilitate AI	Represents users to ensure appropriate AI tools are developed and delivered to address use cases	Product Owner	• Provides voice of customer; turns product vision into backlog
		UI/UX	• Designs AI tool interface for usability and accessibility
		Other Technical Experts	• Delivers discrete elements of system not specific to AI
 Employ AI	End-users of AI tools, provide feedback on and requirements for AI tools	Operations	• Prepares for and delivers operational requirements
		Intelligence	• Gathers and analyzes info to support decision-making
		Logistics & Maintenance	• Enables troop / gear movement, maintain equipment
		Health	• Maintains health and wellbeing of the Warfighter
		Support	• Supports the Warfighter in non-combat requirements

AI Workforce Development Initiative

SEI Strategy





Advocate for
AI Engineering



Collaborate to Build
the Discipline



Support the
Research Agenda

<https://www.sei.cmu.edu/our-work/artificial-intelligence-engineering/>

AI workforce development and AI Engineering

AI Engineering pillars

Human Centered – AI designed to work with, and for, people.

Robust and Secure – Reliably operate at expected levels of performance, even in the presence of uncertainty, danger, or threat.

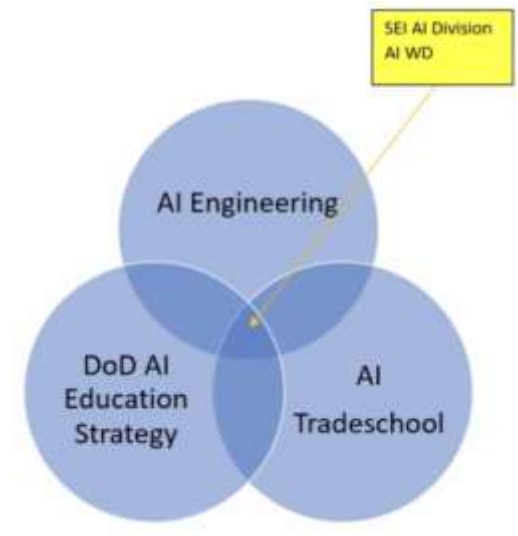
Scalable AI – Ability for algorithms, data, models, and infrastructure to operate at the size, speed, and complexity needed for the mission.



AI Division Workforce Development

Support the AI Engineering initiative adoption by:

- Develop - AI Engineering content
- Contextualized – Relevant and appropriate to our customer base
- Deliver - Modalities appropriate for a diverse workforce*
 - Applied training vs theory
 - Think “AI Tradeschool”



*DoD – Largest employer in the world (1.4M employees)

Software Engineering Institute

- About
- Our Work
- Publications
- News and Events
- Education and Outreach
- Careers



SEI | Our Work | Projects | AI Workforce Development

AI Workforce Development

CREATED MAY 2022

A well-developed, knowledgeable AI workforce accelerates any organization's ability to gain the leap-ahead advantages AI promises. At the SEI, we bring the latest academic advances at Carnegie Mellon University to real world challenges faced by defense and national security organizations to advance the professional discipline of AI engineering. Through tailored interactive workshops, we share our expertise with AI teams, practitioners, and leaders.

Work With Us

Contact us to bring our experts to your organization

Schedule a meeting with our team

More about AI engineering research

- Several workshop offerings
- Blog published (9/2022)

Courses in the pipeline

- Introduction to AI Engineering
- Understanding Uncertainty and Failures in ML Models
- Data and tactical ML pipelines
- ML Experimentation pipelines (Juneberry topics)
- ML Skills course for leaders
- Introduction to Counter AI & AI Assurance



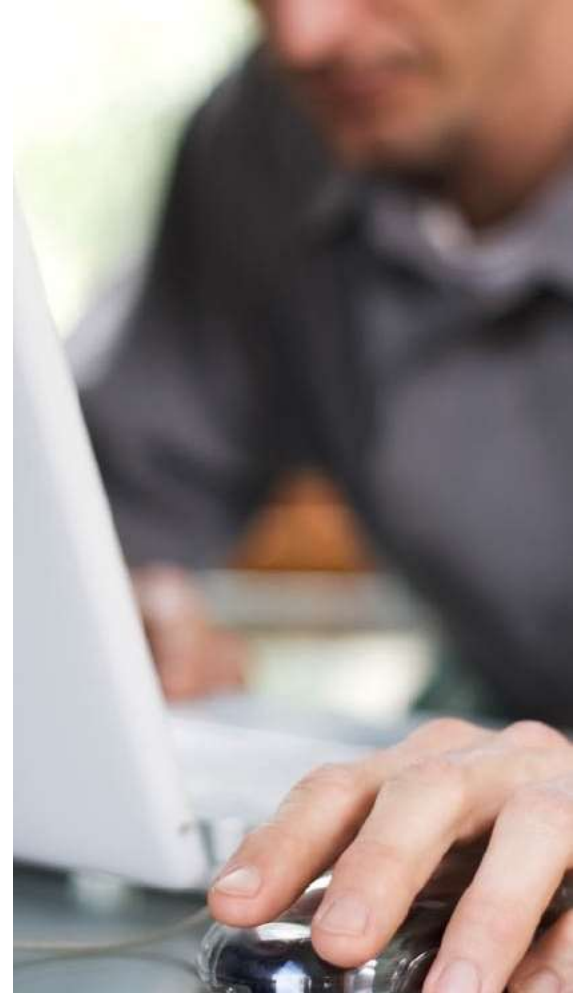
CDAO

Currently partnering with the CDAO in developing curriculum for the DoD workforce.

Create scalable resources to train and educate the DoD AI workforce on Responsible AI (RAI)

AI Workforce Development Initiative

Technology and Resources



Instructional design considerations

Forms of instruction

- Synchronous
 - In person
 - Remote (zoom)
 - Live online
- Asynchronous
 - Pre-recorded sessions
 - Developed videos

World-class expertise

- Collaboration with CMU

Delivery Platform

- Collaboration with CERT WD
 - Recorded live; convert to asynchronous content
 - Multi-presentation capabilities
 - Transcription for 508 compliance
 - Utilize in-house studio
 - Experience with LMS
 - Experiential learning capabilities

Business strategies that will inform the community of the AI WD initiatives and to build the BoK

Customer Outreach



Program Development



Blogs and Conferences

