

NPS Launches New Master's in Artificial Intelligence Focused on Warfighter Needs

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U.S. Navy graphic by Andre Adams

With the inaugural cohort beginning in July 2026, NPS' brand new, one year Master of Science in Artificial Intelligence (MSAI) degree will deliver the advanced knowledge, skills, and practices necessary to rapidly develop military leaders with advanced expertise in one of the most strategically vital technologies of the 21st century.

The one-year MSAI residential program is designed to rapidly develop military leaders with advanced expertise in one of the most strategically vital technologies of the 21st century. The U.S. Secretary of War's recent announcement of the GenAI.mil initiative directed that, "AI should be in your battle rhythm every single day." The first cohort of NPS students will start the new MSAI degree program in July 2026, with an initial emphasis on operationalizing AI.

Through a combination of lectures, laboratory assignments, hands-on research projects, and team hackathons, NPS students will gain a deep understanding of AI and its warfighting applications in Command, Control, Communication, Computers, Cyber, Intelligence, Surveillance, Reconnaissance and Space (C5ISR&S). "This program is going to be quite intense, but advantageous, and will instill in our student's knowledge of advanced AI techniques and skills that are needed to solve some of the most complex problems that our military faces," noted Dr. Gurminder Singh, chair of the NPS Department of Computer Science.

The NPS curriculum comes at a time when AI has become central to global security competition and is transforming all aspects of modern society and military operations. According to Singh, the program serves both the U.S. Navy's urgent operational needs while capitalizing on the school's unique ability to deliver cutting-edge relevant education tied directly to military problem-solving.

"We are in the age of AI. Its impact on maritime operations, from seabed to space, and across the seven joint warfighting functions, is and will be profound," said U.S. Navy Vice Adm. Michael Vernazza, Commander, Naval Information Forces. "We must act with urgency to integrate this transformational technology and educate leaders who can employ it decisively and at scale across the fleet. The Naval Postgraduate School has been a cornerstone of our efforts to empower and operationalize AI, and this new AI master's degree underscores that commitment."

"We are in a race," added Singh. "And China is giving us tough competition in the use and development of AI. Our military needs to prepare quickly to deal with that challenge. This AI master's degree is designed to produce relevant expertise for applied AI in just one year."

The new MSAI program at NPS aligns with the six Critical Technology Areas recently announced by Dr. Emil Michael, Under Secretary of War for Research and Engineering (OUSW(R&E)), as essential to

address the United States' most pressing national security challenges. In an official video posted on OUSW(R&E)'s LinkedIn, Michael stated that applied AI will transform the Department of War (DoW) into an "AI-First" organization, revolutionizing decision-making and operational efficiency. The effort is in response to direction from the White House.

"[Applied AI] has the potential to reshape the global balance of power, spark entirely new industries, and revolutionize the way we live and work," states the July 2025 White House AI Action Plan. "As our global competitors race to exploit these technologies, it is a national security imperative for the United States to achieve and maintain unquestioned and unchallenged global technological dominance."

Many say the AI-enabled battlespace is now upon us, with the future of warfighting advantage AI-driven. Human-machine teaming must continuously shrink the Orient-Observe-Decide-Act (OODA) cycle to gain and maintain decision advantage. AI is critical to technologies like intelligent autonomous systems, combat systems, and cybersecurity, but also to the business of leading and managing national defense for increasing efficiency and effectiveness.

The MSAI program at NPS will look deeply into core AI technologies that are transforming every aspect of warfare and operations. It emphasizes practical application through projects with realistic military scenarios and the timely acquisition of AI systems while being rooted in responsible AI principles. The program is designed for U.S. active-duty military and qualified international officers sponsored by allied and partner nations, and DOW civilian employees who already have a firm grasp of computer science principles and possess strong analytical and problem-solving skills.

In addition to equipping graduates with deep technological understanding of AI to include coding, modeling, experimentation and ethical governance, the new master's degree will prepare military leaders to embed AI into new tactical and strategic concepts of all-domain warfighting.

Unlike NPS' existing two-year master's in computer science, which provides a specialization track in AI, the new degree is accelerated, focused on AI fundamentals and an emphasis on introducing students to advanced AI topics. Students will be required to complete either a research thesis, capstone project, or specialized electives, depending on the needs of their sponsoring commands. For students who have a strong background in computer science but lack an introduction to AI, there will be a refresher quarter to build that foundation.

The curriculum spans multiple dimensions of AI, including deep learning, trustworthy and responsible AI, adversarial and secure machine learning, computer vision, and applications in robotics and decision support. The program will go beyond algorithms, embedding AI education in the context of real-world military applications.

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