

## As AI redefines tech jobs, LI colleges are adapting computer science curriculums

By Victor Ocasio/victor.ocasio@newsday.com

By Victor Ocasio

victor.ocasio@newsday.com

Hannah Lee, a sophomore at Stony Brook University, said she is not worried about artificial intelligence's impact on the job market.

The 19-year-old computer science major likened people's fears about the rapidly evolving technology to concerns about the dot-com boom in the 1990s, which many believed would cause major job losses.

But she thinks those fears are overblown.

"Of course, technical skills are important and maybe AI will surpass us in technical skills, but there's a lot more that goes into a job than just that," Lee said. "I like to think that at the end of the day AI can't replace us in terms of being able to work on a team, knowing how to work collaboratively with people."

The computer science field, once a bedrock of high-paying jobs, has undergone mass layoffs since 2022 as a result of pandemic over-hiring and has continued to shed jobs, particularly entry-level jobs such as programmers, due to AI advances, according to Statista, a global provider of business data. But even as AI brings uncertainty to the job market, more colleges on Long Island are offering AI-focused programs to teach students the skills they need to land jobs in an evolving industry.

"I think we're going to see the smaller, entry level skilled jobs reduced, but at the same time we're going to see the more advanced jobs increase in number," said Lee Stemkoski, professor of computer science and mathematics at Adelphi University. LI colleges adapt curriculum  
Generative AI uses neural networks to analyze large amounts of data to create new content in seconds, such as original images, text or code in response to typed instructions written in English.

Amid a trend of job losses driven by AI-powered technology that can automate routine and complicated tasks, local colleges said they see a pressing need to update computer science curriculums to ensure graduates remain competitive in a tough job market.

Long Island professors also say interest in students seeking to enroll in AI courses has been high.

Last year, 70% of college graduates said training in generative AI should have been part of their courses to prepare them for the job market, according to a 2024 nationwide survey by the Centage Group, an education technology company.

Jobs, including junior software developers, quality assurance testers and junior data analysts, are at risk given the repetitive nature of the tasks and AI's ability to perform those tasks at lightning speed, according to Sujay Saha,

president of Manhattan-based Cortico-X, a business consultancy that works with tech companies.

In late 2022, the social media company Meta, which owns Facebook and Instagram, announced it was shedding 11,000 jobs. Two years later, in January 2024, Microsoft cut 1,900 jobs. So far this year, 123 tech companies have shed more than 52,000 jobs, according to tech industry layoff tracker Layoffs.fyi.

Stony Brook, Adelphi and Hofstra universities as well as New York Institute of Technology and Farmingdale State College are among higher educational institutions on Long Island launching AI courses and programs to prepare students for the jobs of the future.

This fall, Adelphi University in Garden City is launching a bachelor's in AI through its mathematics and computer science department. LIU Post in Greenvale plans to launch a bachelor of engineering program in digital engineering this fall, which will focus on AI and computing.

In January, NYIT in Old Westbury introduced a minor in AI for undergrads, as well as a concentration in AI for computer science majors. Last year, Farmingdale announced a new bachelor's degree program in AI.

Hofstra in Hempstead now offers a concentration in AI and data science for its computer science students, and Stony Brook, through a state grant, created the Department of Technology, AI and Society, and has introduced a bachelor's program for data science, which will enroll its first students in the fall.

Babak D. Beheshti, dean of NYIT's College of Engineering and Computing Sciences, said while AI will "automate certain coding tasks, especially repetitive ones like debugging and basic software development," it won't eliminate a lot of jobs outright but "will likely change the nature of those jobs."

Although many technology companies have been trimming their workforce, Beheshti said that as AI is more widely used, opportunities for computer science graduates will open in industries outside the tech field.

Agriculture, for instance, "was not necessarily a computer-focused industry," he said, adding that today "the technology exists where we can equip drones with some AI capabilities to fly over crops, take pictures and see what diseases the crops have and ID them automatically." Job growth in the AI sector Job opportunities in the AI sector are expected to grow, from tech to finance, health care, media, retail and manufacturing, and include job titles such as AI prompt engineer or AI model trainer, local experts said.

The number of AI and machine learning specialists is expected to jump by 40% by 2027, according to a 2023 report by the World Economic Forum.

Salaries for the majority of AI specialist jobs range between \$94,000 and \$118,500 a year across the country, according to ZipRecruiter.

Generative AI tools are estimated to replace 56% of entry-level positions across industries over the next five years, according to a report by Wellable, a Boston-based corporate wellness program provider.

Additionally, more than a quarter, 26%, of the tasks programmers and software developers do could be automated

by generative AI, according to a 2023 report by KPMG, a multinational accounting firm based in London.

Local employers in the tech space have pointed to the massive leaps in productivity that AI tools have enabled, with some claiming efficiency increases of 50% or more and the shorter time it takes to complete projects. As a result, some tech employers on Long Island said they foresee reducing headcount by more than half, as Newsday previously reported.

Xogito in Plainview, for instance, expects to cut its staff of 200 by half.

"A lot of jobs will go away," said Saha of Cortico-X, likening AI adoption to the Industrial Revolution, which ultimately eliminated many jobs, but eventually, will create others.

"It's going to happen again with the AI arena," he said.

Stemkoski, who heads Adelphi's innovation center, said AI will provide technology workers with the tools to do more and focus on higher-level tasks.

"We're still going to be teaching people how to program, but at the same time AI is a tool that can greatly accelerate development," he said. Tech's new normal Steven Skiena, a Stony Brook computer sciences professor and interim director of the university's AI Innovation Institute, said computer science students are landing internships and jobs, a "leading indicator" that opportunities remain.

The college's students have landed summer internships this year at Amazon, Meta, Google, Yahoo, Nvidia, Salesforce and J.P. Morgan Chase, he said.

"The smart grads who are coming out of computer science programs today . . . they will be as smart as someone who has been in the computer science field for 10 years," Saha said. It's older, mid-career tech employees who are just now pivoting to AI use that he worries about, Saha said.

Long Island students, however, are optimistic about their place in a rapidly changing tech world, with some like Jaan Malik, 22, a computer science major at NYIT, taking a more proactive approach.

Less than a year ago, Malik, of West Islip, started working on his own startup, an AI-powered platform that allows users to make 3D printer-ready models seamlessly before connecting them to nearby printing providers.

Malik who is graduating this month, said his decision to launch a business was partly motivated by the change in the tech industry. "I wanted to get on top of it," he said.

Zikai Liao, 26, a Ph.D. student and teacher's assistant at Stony Brook University, said students who use AI in their programming are able to outproduce peers who don't.

"When you put those people who don't use AI and those people who use AI all the time together, you find that those who use AI, they usually do things much faster and more efficiently," he said.

--- ENDS ---