

Programming Jobs Losing Luster in U.S.

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As an eager freshman in the fall of 2001, Andrew Mo's career trajectory seemed preordained: He'd learn C++ and Java languages while earning a computer science degree at Stanford University, then land a Silicon Valley technology job.

The 22-year-old Shanghai native graduated this month with a major in computer science and a minor in economics. But he no longer plans to write code for a living, or even work at a tech company.

Mo begins work in the fall as a management consultant with The Boston Consulting Group, helping to lead projects at multinational companies. Consulting, he says, will insulate him from the offshore outsourcing that's sending thousands of once-desirable computer programming jobs overseas.

More important, Mo believes his consulting gig is more lucrative, rewarding and imaginative than a traditional tech job. He characterized his summer programming internships as "too focused or localized, even meaningless."

"A consulting job injects you into companies at a higher level," he said. "You don't feel like you're doing basic stuff."

Mo's decision to reboot his nascent career reflects a subtle but potentially significant industry shift. As tens of thousands of engineering jobs migrate to developing countries, many new entrants into the U.S. work force see info tech jobs as monotonous, uncreative and easily farmed out - the equivalent of 1980s manufacturing jobs.

The research firm Gartner Inc. predicts that up to 15 percent of tech workers will drop out of the profession by 2010, not including those who retire or die. Most will leave because they can't get jobs or can get more money or job satisfaction elsewhere. Within the same period, worldwide demand for technology developers - a job category ranging from programmers people who maintain everything from mainframes to employee laptops - is forecast to shrink by 30 percent.

Gartner researchers say most people affiliated with corporate information technology departments will assume "business-facing" roles, focused not so much on gadgets and algorithms but corporate strategy, personnel and financial analysis.

"If you're only interested in deep coding and you want to remain in your cubicle all day, there are a shrinking number of jobs for you," said Diane Morello, Gartner vice president of research. "Employers are starting to want versatilists - people who have deep experience with enterprise-wide applications and can parlay it into some larger cross-company projects out there."

Career experts say the decline of traditional tech jobs for U.S. workers isn't likely to reverse anytime soon.

The U.S. software industry lost 16 percent of its jobs from March 2001 to March 2004, the Washington-based Economic Policy Institute found. The Bureau of Labor Statistics reported that information technology industries laid off more than 7,000 American workers in the first quarter of 2005.

"Obviously the past four or five years have been really rough for tech job seekers, and that's not going to change - there are absolutely no signs that there's a huge boom about to happen where techies will get big salary hikes or there will be lots of new positions opening for them," said Allan Hoffman, the tech job expert at career site Monster.com.

Not everyone from the class of 2005 thinks programming is passe, and companies are always eager to hire Americans who can write great code - the type of work that, in recent years, produced innovations including file-sharing software at Napster and search engine tech at Google.

But even the most dedicated techies are entering the profession with less zeal than their predecessors.

The erosion of "deep code" and other technology jobs in the next decade is creating a high-stakes game of musical chairs for geeks, Silicon Valley recruiters say.

Dimming career prospects have been particularly ego-bruising for people who entered the profession during the late '90s, when employers doled out multiple job offers, generous starting salaries, and starting bonuses including stock options and Porsches.

"The current situation is getting back to the '70s and '80s, where IT workers were the basement cubicle geeks and they weren't very well off," said Matthew Moran, author of the six-month-old book "Information Technology Career Builder's Toolkit: A Complete Guide to Building Your Information Technology Career in Any Economy."

"They were making an honest living but weren't anything more than middle-class people just getting by," Moran said.

Thousands of U.S. companies have opened branches or hired contractors in India, China and Russia, transforming a cost-saving trick into a long-term business strategy. Offshoring may be a main factor in eroding enthusiasm for engineering careers among American students, creating a vast supply of low-wage labor in eastern Europe and Asia and driving down worldwide wages.

The average computer programmer in India costs roughly \$20 per hour in wages and benefits, compared to \$65 per hour for an American with a comparable degree and experience, according to the consulting firm Cap Gemini Ernst & Young.

According to the most recent data from the Science Foundation, 1.2 million of the world's 2.8 million university degrees in science and engineering in 2000 were earned by Asian students in Asian universities, with only 400,000 granted in the United States.

U.S. graduates probably shouldn't think of computer programming or chemical engineering as long-term careers but it's "not all gloom and doom," said Albert C. Gray, executive director of the National Society of Professional Engineers.

He says prospects are good for aeronautic, civil and biomedical engineers, the people who design and build artificial organs, life support devices and machines to nurture premature infants.

"In this country, we need to train our engineers to be at the leading edge," Gray said. "That's the only place there's still going to be engineering work here."

At Stanford, career experts are urging engineering and science majors to get internships and jobs outside of their comfort zones - in marketing, finance, sales and even consulting.

They suggest students develop foreign language skills to land jobs as cross-cultural project managers - the person who

coordinates software development between work teams in Silicon Valley and the emerging tech hub of Bangalore, India, for example.

Stanford listed 268 job postings in its computer science jobs database in the spring quarter - roughly double the number from last year.

But that doesn't necessarily indicate a plethora of traditional tech jobs. About half of the new postings would prefer applicants who speak at least two languages and many were for management-track positions, said Beverley Principal, assistant director of employment services at Stanford.

"When they're first hired at the entry level, just out of school, people can't always become a manager or team leader," Principal said. "But many employers see these people moving into management roles within two years. They need to know how to step into these roles quickly."

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