

Where jobs are and students aren't

BY OMAR EL AKKAD

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David Kellam can do but he's opting to teach.

He graduated from Queen's University last year with a degree in computing. But he's turning away from the tech sector as a long-term career prospect. Instead, the 23-year-old went back to Queen's and enrolled in the faculty of education.

"I see no need to get myself stuck in a grey box somewhere pounding out code that may or may not be used inside some whale of an application," Mr. Kellam says.

He is among a growing number of North American students and grads steering away from tech-sector jobs, presuming the industry is still in a post-bubble slump, with little in the way of employment opportunities.

How wrong they are, according to industry experts, who point to strong evidence that the tech industry is on the rise again and facing a supply-and-demand hiring disconnect.

It's a disconnect that Bernard Courtois, president and CEO of the Information Technology Association of Canada, finds disturbing. "People only retain that the bubble burst."

Withering interest is showing at the university level now. New enrolments in North American computer science programs were 10 per cent lower in the 2004-2005 school year than the year before. That follows a 23-per-cent drop in 2002-2003, according to the Computing Research Association, a group of more than 200 North American academic departments of computer science, computer engineering and related fields. Enrolment has been in decline for the past four years.

Dean McKeown, manager of the school of computing at Queen's, says enrolment in the Kingston, Ont., university dropped 20 per cent during the 2004-2005 school year and levelled off this year.

Moreover, the Canadian tech industry is also looking for ways to brace against a "double dip," as more current employees reach retirement age even as fewer new employees emerge from universities, says Terry Powers, president and chief operating officer of IT staffing firm CNC Global Ltd.

"It's definitely creating some concern among Canadian companies."

The surge in the number of computer science students in the late nineties coincided with the industry bubble, when many were lured by the prospect of six-figure starting salaries in a sector experiencing unprecedented -- and, in hindsight, unsustainable -- growth. Since then, demand for computer science degrees has plummeted.

At an annual meeting of computer science program heads earlier this year, attendees brought up concerns about fading interest in the field, and the effect on big corporations, such as International Business Machines Corp. and Microsoft Corp., four or five years from now when today's weak enrolment numbers will translate into fewer technology graduates, Mr. McKeown says.

Declining interest at the university level comes at a time when overall demand for information technology professionals is growing. Demand for IT workers in Canada has doubled over the past 18 months, according to CNC Global.

In fact, employment growth for information and communication technology professionals between 1990 and 2004 was about four times higher than overall employment growth in Canada, according to an Industry Canada survey released in August, with the strongest growth experienced by software engineers, followed by programmers, systems analysts, computer and electronic engineers.

The current growth "is a clear indication that there's a strong demand for IT professionals right now," Mr. Powers says.

"Budgets seem to be loosening and we're seeing an increase in project starts, especially within large organizations. At the same time, the recent spike in requirements for full-time IT professionals suggests that employers are becoming more confident."

Offers-per-candidate are also up, according to research by CNC Global. Twelve months ago, a good candidate could count on one or two "solid offers."

Today, the same candidate will see four or more, CNC says. As a result, employers are dealing with more turndowns and many are accepting their second or third choices, CNC adds.

In Ottawa, the heart of Canada's so-called "Silicon Valley North," the number of new technology companies has grown almost 75 per cent in the past five years, according to the Ottawa Centre for Research and Innovation, after many of the employees who lost their jobs when the tech bubble burst started their own companies.

Those companies are raising the ante in their drive to attract IT talent.

Specially trained workers in Canadian high-tech companies are earning both more than they did three years ago and more than their peers in other industries, according to a 2004 survey of Canadian high-tech companies by Mercer Human Resource Consulting, which was sponsored by the Information Technology Association of Canada.

Software design engineers, for instance, earned an average of \$101,000 a year in 2004, up from \$80,000 in 2001. Hardware engineers earned on average \$97,000, up from \$81,000.

"We anticipate that the upward pressure on salaries for high-tech engineers will continue, given that the enrolment rate in college and university high-tech programs is declining, but the demand for capable professionals is not," says Mercer principal Danielle Bushen.

Mr. Courtois believes that if more people do not take an interest in pursuing a tech career, technology companies already under pressure to operate overseas will start looking elsewhere for employees.

"The danger is that companies are becoming increasingly global. If there's no talent in Canada, they may be pressured to look in other countries," he says.

Ann Fuller, a spokesperson for Nortel Networks Corp., which was responsible for some of the largest layoffs in Canada when the tech bubble burst, says the Brampton, Ont.-based company promotes tech careers not just for its own hiring prospects but to keep Canada at the forefront of a variety of sectors where companies are looking for strong IT skills.

The company's promotional efforts begin before students even reach university. Last May, Nortel hosted 150 female high school students to promote tech careers for women, and did a similar program for male and female high-school students a month earlier.

Nortel also participates in university co-op programs and a "campus ambassador" initiative, under which students act as Nortel's eyes and ears at a university, recommending other students for jobs and helping the company get its name out.

Companies are also changing their hiring ways, relying on more individual contractors who often work on a project for six to nine months before moving on. Demand for these so-called "knowledge nomads" is growing, as is the tendency to train non-tech employees in acquiring tech skills.

"I would also say the opposite is definitely true," Mr. Powers says. Companies

are more likely to hire project leaders with a business rather than a tech background, which gives tech employees an incentive to learn non-tech skills.

The shift is a result of the proliferation of tech jobs across non-tech industries, Mr. Powers says. Whereas the bulk of IT jobs were within the sector during the tech bubble, that is no longer the case.

"In what we call the dot-bomb days, jobs were usually at a lot of floundering tech-oriented companies," Mr. Powers says. "Now there's more demand for tech workers across a variety of industries, including banks, insurance companies and telecom."

Universities, faced with declining interest, are starting to adapt to the shift. The Queen's school of computing recently introduced a biomedical computing program, which has become the most popular option at the school. Ryerson now offers a program that teaches students with a tech background management skills.

"They're starting to come to terms with the idea that it's no longer just about teaching programming," Mr. Powers says.

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