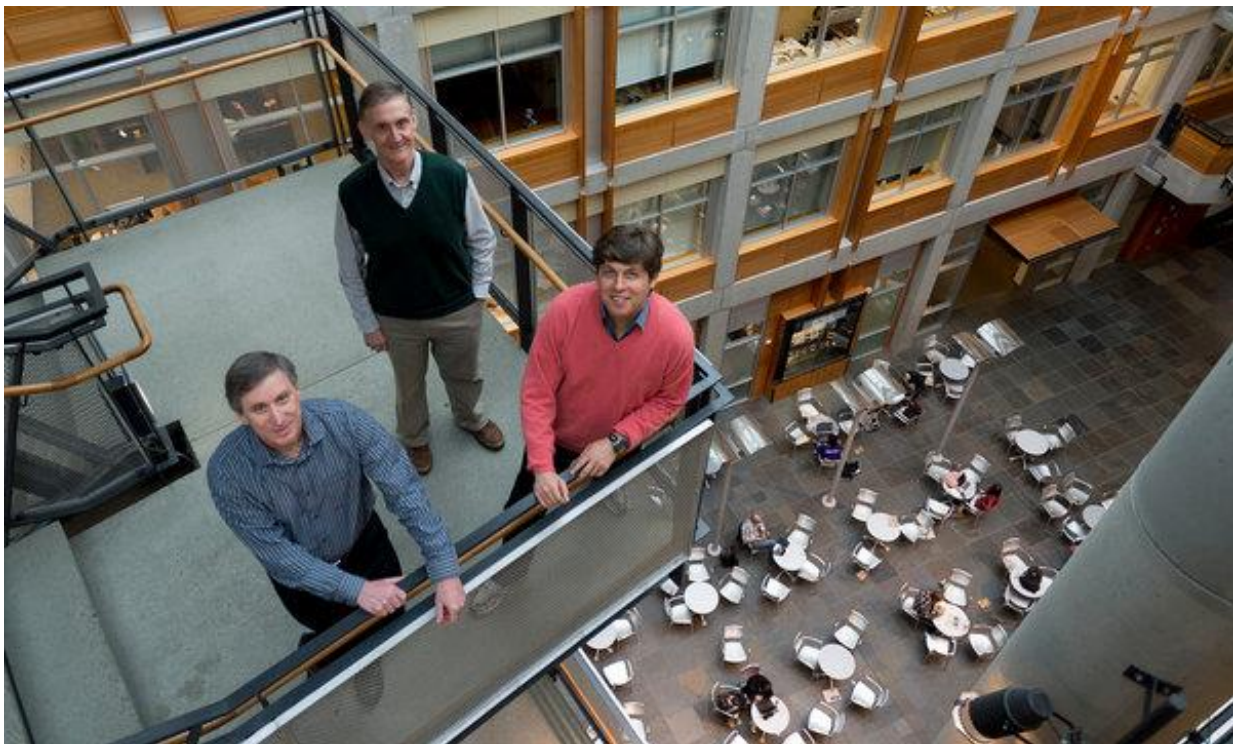TECHNOLOGY

A Northwest Pipeline to Silicon Valley

By NICK WINGFIELD   JULY 7, 2012

The University of Washington professors Henry M. Levy, left, Ed Lazowska, center, and Oren Etzioni on an atrium balcony in the school's Paul G. Allen Center for Computer Science and Engineering. Credit: Stuart Isett for The New York Times
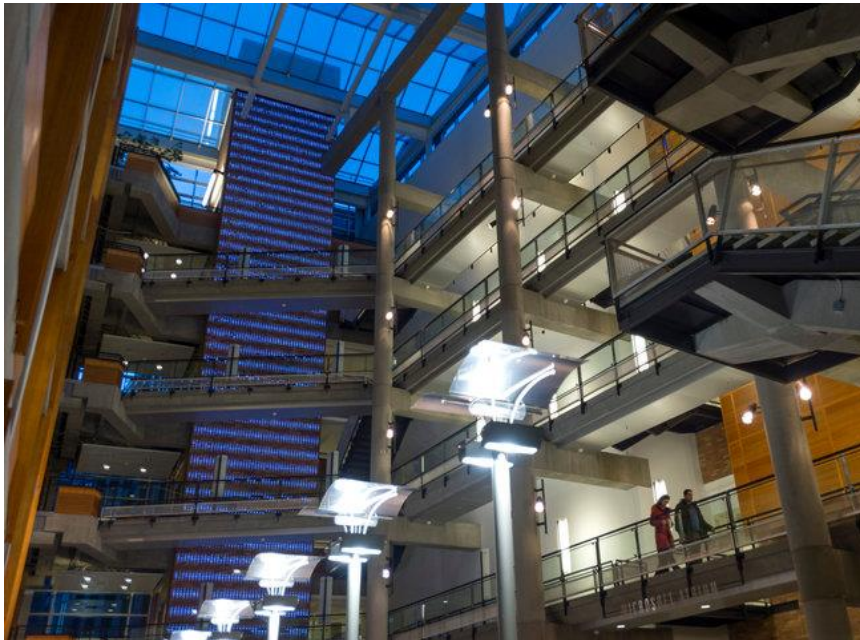
Seattle

SOME budding entrepreneurs and computer whizzes based here in the Pacific Northwest are starting to turn heads down in Silicon Valley.

They are professors and students at the University of Washington, home to what may be the best computer science department you've never heard of.

Although Stanford is considered the Hogwarts of techdom, U.W. has quietly established itself as the other West Coast nexus of the information economy. And while Seattle-area tech icons

like Microsoft and Amazon have long relied on U.W. — pronounced "U-dub" by locals — as an incubator of talent and ideas, the Valley's hottest companies have been getting the message, too.

Their executives have begun streaming up the coast to Seattle, fueled by a talent arms race for programmers. Facebook, Zynga and Google have opened offices in the area, trying to woo U.W. engineers who'd rather live here, where taxes and home prices are lower, even if mist and dark skies envelop the scenery for much of the year.

The soaring atrium of the computer school.
Credit: Stuart Isett for The New York Times

"It's the most underrated computer science department I've seen," said Ari Steinberg, a Facebook engineer who runs the company's Seattle office, which opened in early 2010.

The university's computer science and engineering department, ensconced on a patch of land near Husky Stadium and Lake Washington, has come a long way since the early 1970s. During that time, two Seattle teenagers, Bill Gates and Paul G. Allen, honed programming skills by sneaking into the department to tinker on its computers. The department's stature began to pick up in the 90s, as the university began to significantly expand its computer science faculty with new stars like Oren Etzioni.

At the same time, Microsoft, the company that Mr. Gates and Mr. Allen founded, jump-started the Seattle technology scene and many fortunes along with it. Mr. Gates, Mr. Allen and others became big contributors, helping the university build a new home for its computer science program.

In recent years, the department has deepened its ties with tech companies like Google, helping to gain an edge in teaching programming for the cloud, a big trend in computing.

In the most recent rankings by U.S. News & World Report, the graduate program placed seventh in the nation, right behind Cornell and the University of Illinois at Urbana-Champaign. (Tied for first were Stanford, Carnegie Mellon, the Massachusetts Institute of Technology and the University of California, Berkeley.)

The U.W. department's growing recognition has been a blessing for its students, who are getting juicier job offers with top companies. But some Seattle technology executives say the competition is crimping the city's homegrown technology scene, making it into something like a colony of Silicon Valley.

According to the university, some 35 percent of its computer science graduates end up working at Amazon, Google or Microsoft in a typical year; 15 percent go to other big companies and 30 percent to small companies or start-ups. More than 80 percent of the program's students come from Washington State, and the same percentage end up staying in the state after graduating, even if they work for companies based in Silicon Valley.

The biggest problem with the university's program is that it can't turn out graduates fast enough. Engineers are in short supply in the computer field generally, but this is a particular concern in the Seattle tech market.
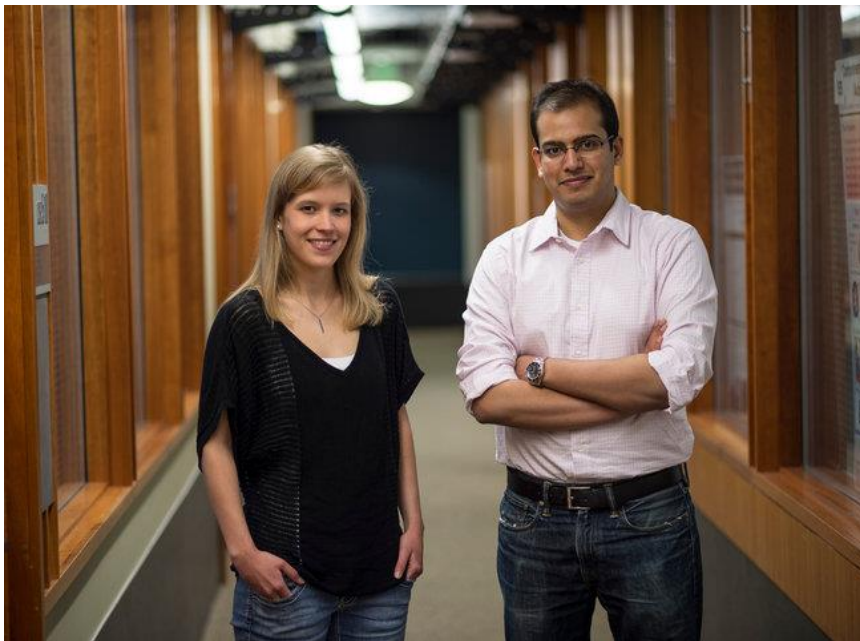
Students include Franzi Roesner and Sidhant Gupta, who says he passed up offers at M.I.T. and other schools to study at Washington.
Credit: Stuart Isett for The New York Times

"We need that program to be a lot bigger," says Spencer Rascoff, chief executive of Zillow, a real estate Web site based in Seattle.

IN a conference room at the university, overlooking the sparkling waters of Lake Washington, Christophe Bisciglia told a crowd of dozens of students what his secret weapon was: them.

Mr. Bisciglia, 31, an entrepreneur and former star Google engineer, was visiting during the spring to speak on a panel about start-ups to computer science students. He said he has gained an "unfair advantage" for WibiData, his new San Francisco-based company, by recruiting from the university's computer science department, where two-thirds of his employees once studied.

"Down in the Valley, it's all Stanford this and that," said Mr. Bisciglia, himself a U.W. graduate. "While they turn out students that are good, U.W. turns out students that are every bit as good."

The deep connections between U.W.'s computer science program and the Seattle tech scene are written on the wall, literally. The department is housed in the Paul G. Allen Center for Computer

Science and Engineering, a brick-and-glass building with a soaring, six-story atrium in the center of campus.

The building, which opened in 2003, provided a big boost to the program, adding lab space for robotics experiments and replacing a structure that "was falling down around us," said Ed Lazowska, who joined the computer science department in 1977, and was chairman for eight years.

Mr. Allen was the leading donor for the construction of the building, along with Mr. Gates. Mr. Lazowska holds the Bill & Melinda Gates Chair in Computer Science and Engineering. Many other notables from Seattle tech companies have also contributed money.

Like their peers at Stanford, U.W.'s computer science faculty members say that one of their program's strengths is the engagement between professors and the tech industry that will one day employ most of the graduates. Henry M. Levy, the current department chairman, is a co-founder of two tech start-ups. Mr. Etzioni is a co-founder of several Internet companies that were later acquired, including Farecast, an airfare price prediction service that Microsoft bought for $115 million in 2008.

A computer lab is a hub of activity — and, it seems, a large consumer of soft drinks. Credit: Stuart Isett for The New York Times

Along with four Washington graduates, Mr. Etzioni recently formed another company, Decide.com, which helps consumers time their purchases of iPads and other electronics to avoid missing price drops. He is a venture partner at Madrona, a Seattle venture capital firm that invested in Decide.

While Stanford is a famously entrepreneurial environment, where business plans are hatched in dorm rooms, the rap on U.W. computer science students is that they tend to be more risk-averse, reflexively gravitating toward bigger companies for employment.

Mr. Etzioni, though, pushes students to jump into the start-up world. In May, he moderated a panel at the university on the subject with Mr. Bisciglia; Glenn Kelman, C.E.O. of the Web real estate company Redfin; and others. About 60 students peppered the executives with questions about start-up life.

"He's done a great job of creating successful start-ups and of bringing along others," said Brad Silverberg, a former Microsoft executive who is now a venture capitalist at Ignition Partners in Bellevue, Wash.

In an interview in his office on campus, Mr. Etzioni conceded that the U.W. brand "is definitely weaker" than that of Stanford in computer science, but he says the department has become increasingly competitive. "The students are so much stronger than they were five or 10 years ago," he said.

In May, Seth Cooper, a Washington professor who earned his Ph.D. from the department last year, won the Association for Computing Machinery doctoral dissertation award, one of the field's most prestigious prizes. His dissertation described how video games could be used to solve complex scientific problems. He was a co-creator of one game, Foldit, that harnessed the efforts of tens of thousands of players to solve the structure of a protein useful in the fight against H.I.V.

Sidhant Gupta, a Ph.D. student in computer science, is working on low-cost sensing technologies that can help people monitor their energy use. Mr. Gupta, who received his master's degree from the Georgia Institute of Technology, said U.W. is a collegial environment where experts in different computer science disciplines are encouraged to collaborate.

"It feels like one big family," said Mr. Gupta, who passed up offers at M.I.T. and other schools to study at Washington. "No one is trying to back-stab you to get ahead of you. That's really different than other programs."

The University of Washington's department is not as celebrated as Stanford's but has become a feeder system of sorts for big technology companies.
Credit: Stuart Isett for The New York Times

Still, when Mr. Gupta went back to his native India and told his friends he was going to U.W., they told him they had never heard of it.

WASHINGTON was one of the earliest schools to teach undergraduates how to program for the cloud, where software sometimes needs to run on thousands of machines at the same time, rather than on a single one. In 2006, Mr. Bisciglia, then a Google engineer, persuaded his boss to let him teach a course at his alma mater about writing software for huge clusters of computers.

Mr. Bisciglia said he taught the course for three academic quarters. By the end, Google had hired half the students in the classes, an unusual move. "Google doesn't hire half of any group of people," he said.

Mr. Lazowska said the university turned away about three-quarters of all U.W. students who apply to major in computer science because it doesn't have the faculty to educate them, even though there is huge demand for engineers. Belt-tightening has reduced state money for U.W. as a whole by nearly 50 percent since 2009, according to the university.

"This is having a serious impact," he said, "on the ability of small companies to grow and succeed and big companies to hire locally."

Recognizing this, the university recently agreed to increase the budget of the computer science department, which will allow it to grant a third more degrees over the next few years, according to Mr. Lazowska.

He is also looking elsewhere for help. This year, he sent an e-mail to Jeff Bezos, the Amazon C.E.O., asking if he would endow two professorships for experts in the field of machine learning whom the university wanted to hire: Carlos Guestrin of Carnegie Mellon and Emily B. Fox of the University of Pennsylvania. Within 48 hours, Mr. Bezos responded that he would not personally finance the positions, but that Amazon would, Mr. Lazowska said.

Ty Rogers, an Amazon spokesman, declined to comment on Amazon's funding of the professorships and Mr. Bezos's involvement in recruiting the professors. In an earlier interview, Susan Harker, director of global talent acquisition at Amazon, described the U.W. as one of the Internet retailer's "very top pipelines" for talent.

In March, as they were considering the offer, Mr. Guestrin and Ms. Fox, who are engaged, visited the university and were impressed that Amazon's C.E.O. personally showed up to help persuade them to join the school. "I've never heard of this," Mr. Guestrin said. "It made a tremendous difference for us."

The two, part of a wave of new hires in the past few months, begin teaching at the university in the fall.

Correction: July 15, 2012
An article last Sunday about the computer science program at the University of Washington misstated the amount of time that Christophe Bisciglia, an entrepreneur and engineer, taught a course there. It was three academic quarters, not semesters; the university uses a quarter system.