The Bridges to Computing project focuses on the transition years from high school to college, working to better inform students about and prepare them for careers in computing fields. Bridges involves academic and social components geared toward high school and college students.

After five years, Bridges has reached more than 300 students from nearly 60 public high schools in Brooklyn and around New York City, over 1800 undergraduates through more than 70 sections of 17 newly developed or updated computing courses, and 23 advanced undergraduate Ambassadors. Participants are largely immigrants from all across Asia, the Caribbean and Eastern Europe. Most undergraduates work part-time while attending school full-time.

The Bridges project spans three primary activities: (1) high school courses for NYC public school students: Computing Prep and “Does It Compute?”; (2) undergraduate courses: hands-on, contextualized “flavors” of “CS0”, “CS1” and “CS2”; (3) mentoring: from high school to undergraduate to graduate students to faculty.

The academic portion of the Bridges program emphasizes computing within a context, centered around interdisciplinary application areas and hands-on learning experiences. “Flavored” versions of undergraduate courses (CS0, CS1 and CS2) have been implemented. High school students are also exposed to each flavor. Flavors include: biologically-inspired simulations, cryptography, e-business, geographic information systems, games, and robotics.

Project evaluation includes: participant surveys and enrollment data analysis, to find changes and trends. Innovative data mining and visualization techniques, applied to enrollment data, support trend analysis.

Project results include the following highlights:

- Surveys show that undergraduates select class sections overwhelmingly based on schedule and professor, not according to a section’s particular flavor.
- Bridges sections of undergraduate CS1 courses have shown better than average retention to CS2 and into the major, as well as fewer students repeating CS1 and fewer students exiting computing.
- A collaboration with CollegeNow, an established partnership between the City University of New York and the New York City Department of Education (collagenow.cuny.edu), enables course offerings for credit and provides a sustainable model for the future, as well as possibilities to expand throughout the CUNY system.
- A Teacher Workshop, in partnership with ACM CSTA (csta.acm.org), gives channels for course material dissemination and student recruitment.

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