

**Union College  
Computer Science Department  
Annual letter from the Chair  
June, 2008**



Dear alumni and friends of the CS department:

We have just wrapped up the 2007-2008 academic year and sent our CS majors off to their jobs or to start graduate school. I decided to write to you now, rather than wait until August by which time I may have forgotten some of the many things we've done this year.

**Student and alumni news**

By summer's end we will have eight new CS graduates, including four pure CS majors and 4 interdepartmental majors (2 with math, 1 with psychology, 1 with art). The majority had jobs or had been accepted to graduate school by the time they graduated. Our Williams Prize recipient, Michael Donovan, is going on to pursue a Masters degree at UPenn in graphics and game technology. Dana Cartwright received the Loughry Prize for the best senior project. In the first part of his project he analyzed current mathematics equation editor design (e.g. Microsoft Word equation editor, TeX/LaTeX editors) and developed an editor design which allows high productivity for advanced users while maintaining ease of use for novice users, particularly students. For the second part of his project Dana implemented a proof-of-concept web-based editor in Javascript based upon an initial implementation by Prof. Cervone of the Math Department. Shortly Dana will begin work as a Software Developer at North Coast Software, located in Oswego, NY, which focuses on custom software development, integration, and support for small to medium businesses.

In news of recent alumni, Michael Boyer, our 2006 Williams Prize recipient who is in a Ph.D. program at UVA, was awarded a five year fellowship from the Semiconductor Research Corporation, funded by AMD. Michael's research is well underway with several conference publications and he continues his connection to Intel, established initially through summer internships while at Union.

Meanwhile, the class of 2009 has an even dozen majors (5 CS, 7 interdepartmental) and the numbers are good in the classes of 2010 and 2011 as well. Our interdepartmental majors in the next few classes combine CS with art, biology, classics, economics, music, philosophy, and psychology. Though I have no formal evidence, I suspect that in some ways we might be the most interdisciplinary department on campus! The entering class also has a good number of students who have listed CS as one of their top two choices for a major, and we look forward to welcoming them in September.

**Faculty News/Department Activities**

This year the department welcomed Kristina Striegnitz. Kristina's research is on

language generation for embodied conversational agents. She has already made considerable contributions to the curriculum, coordinated the department seminar series, and helped strengthen our connections to other programs on campus. Sadly, we closed this academic year by saying good-bye to Brendan Burns who is leaving after two years at Union, lured away by Google. I'll still use their search engine, but replacing Brendan will be difficult indeed. We will launch a faculty search early in the fall term.

As a group the faculty had a very busy year. Some highlights are:

- David Hemmendinger gave an invited talk, "Teaching concurrency", in a mini-symposium on teaching parallel programming at the SIAM Conference on Parallel Processing for Scientific Computing. He presented "Fifty years of programming languages" at the annual conference of the Society for the History of Technology.
- As part of our two NSF CPATH grants, I helped organize and run two workshops on social robotics (at the Schenectady Museum and RPI) and one workshop on computational science across the curriculum (at Lafayette College).
- Fernando Orellana and Brendan Burns collaborated on a robot controlled by Fernando's brain waves. It was part of the **Brainwaves: Common Senses** exhibition at Exit Art Manhattan. You can see the YouTube video at <http://www.youtube.com/watch?v=1RkM1Bt2b3k> and coverage by the local ABC News affiliate at <http://www.youtube.com/watch?v=83M2Rp0Bnqk&feature=related>. Fernando, whose digital art position in the Visual Arts department is now tenure track, had five other exhibitions and, along with Brendan, participated in a workshop on Interactive and Adaptive Furniture in Denmark.
- Brendan Burns published a journal article (Journal of Ad Hoc Networks) and participated with Mechanical Engineering faculty and students on Design and Evaluation of Low Cost Robotic Hand for Dexterous Manipulation for the New England Manipulation Symposium
- Kristina Striegnitz submitted the final versions of two book chapters which will appear in Spatial Language in Dialogue (Oxford Univ. Press) and Engineering Approaches to Conversational Informatics (Wiley). She also presented a conference paper at the International Natural Language Generation Conference and a workshop paper at the AAAI Spring Symposium on Using Artificial Intelligence to Motivate Greater Participation in Computer Science. This summer Kristina will be teaching a one week course at the European Summer School in Logic, Language and Information on natural language generation for embodied conversational agents.

We had an array of seminar speakers this year, including Barbara Cutler and Jim Hendler (RPI), Stephen Freund (Williams), Joe O'Rourke (Smith), Andy Haas (Albany), Julia Hockenmaier (Illinois), Shiu-Kai Chin (Syracuse), Lane Hemaspaandra (RIT), Daniel Scharstein (Middlebury) and David Dagastine (Sun). We were also delighted to host Fran Allen, the 2006 ACM Turing Award recipient, who gave a wonderful talk on her involvement in compiler work during her 40+ years at IBM. We were only more impressed when the power went out and Fran continued her talk in the dark. Students spoke about her afterward as if she were a rock star, describing her as "awesome."

## Curriculum

Our curricular changes are in place, officially reflected in the 2008-2009 course catalog:

- five introductory courses, each with a different theme, each suitable for prospective majors as well as students in other disciplines
- modifications to the data structures course so that it can absorb students from the various intro courses (who will bring in a number of different programming languages)
- new intermediate level electives on web programming, natural language processing, gaming, user interfaces, bioinformatics
- new upper level electives on parallel computing, robotics, compilers, artificial intelligence
- fewer required and more elective courses for majors
- development of a Digital Media minor, in collaboration with the Visual Arts department
- collaboration with the neuroscience program on the new computational track. All neuroscience students will be required to take "Can Computers Think?", our AI themed intro which Kristina Striegnitz inaugurated this year. Students in the computational track will also take Kristina's new course on natural language processing.
- development of a course schedule that will allow us to offer every elective in alternate years.

In 2008-2009 we will offer each intro course one time, covering the themes of computational science, artificial intelligence, media computation, game development, and robotics. I suspect we'll have to tinker a bit over the next few years to find the ideal schedule but we are very excited about these courses and hope to see students from across the entire college in them. We will also offer data structures more often, anticipating higher enrollments in that course.

## Facilities

This summer we are undertaking a room swap, turning Olin 110 into the digital art lab and Olin 102 into our CS lab. This will give Fernando some much needed project space for the digital art students. It will give us a better teaching environment, necessary now that we are teaching many classes in a "studio" style where we mix lecture and hands-on activities during each session. In the course of the move we will also be replacing all the digital art computers, thanks once more to a much appreciated donation from John Kelly, '76. The room swap also includes upgrading of the AV equipment and repositioning of screens and projectors in order to improve sight lines. We thank Dave Cossey, CIO, and Therese McCarty, Dean of Faculty, for contributing to the costs of these changes.

## Things you can do

There are some very concrete things you can do:

- Let me know about internship or job opportunities in your company. I can forward information directly to our students as well as put you in touch with the Becker Career Center.
- If you are reasonably near Union, we'd love to include you in an alumni career panel for our students. Please let me know if you would be interested in participating in such an activity.
- Union is a member of MentorNet (<http://www.mentornet.net>) which matches students with mentors based on areas of interest. Sign up to be a mentor and identify yourself as a Union alum when you do so. I've been mentoring a series of graduate students over the last 3 years and it has been a wonderful experience.

Of course, the annual support alumni provide bolsters all of Union's programs, but you can

always earmark a specific contribution for the CS department. We have been able to support many of our new initiatives thanks to donations made to the department and hope to continue to do so in the years ahead.

If your travels bring you to the area, please stop by the College and say hi. I hope that you have a wonderful summer.

Sincerely,

A handwritten signature in black ink that reads "Valerie B. Barr". The signature is written in a cursive style with a large, prominent 'V' and 'B'.

Dr. Valerie B. Barr  
Professor and Chair  
Computer Science Department  
Union College  
518-388-8361  
[barrv@union.edu](mailto:barrv@union.edu)