November 26th Newsletter

To: All CS Undergraduates
From: the CS Academic Office
CS Undergraduate Newsletter

November 26, 2007

Advising and Course Information

* Wondering who your advisor is? See below!

* Discovery courses for freshmen for Spring 2008 - Registration in Discovery Courses or Discovery Sections of regular courses is limited to freshmen.

* Top 10 Secrets for Breaking into Computer Science / Computer Engineering Fields

* TEFL (Teaching English as a Foreign Language) Institute will be on campus on November 28th

Information Table: 11-2pm Southeast Foyer of the Illini Union (near the ATM Machines)
Information Session: 6pm-7pm at The Career Center, 715 S. Wright Street, Champaign

* LING 591 SPRING 2008 Seminar: Computational Semantics for Natural Language
Instructor: Prof. Roxana Girju (girju@uiuc.edu) -- Time: 01:00-02:20 pm Monday and Wednesday. Course Description below.

Scholarships, Research, Conferences and other Opportunities

* $30,000 Lemelson-Illinois Prize for Student Innovation. It is time once again for the call for entries for the $30,000 Lemelson-Illinois Student Prize for invention and innovation, administered by the College of Engineering through the Technology Entrepreneur Center.

* The CCSC South Central Conference professional papers submission deadline is fast approaching. Deadline for student submissions is November 26th.

* Apply for the U.S. Department of Energy's summer research program at Argonne National Laboratory - application deadline, February 1, 2008.

* The American Council of Engineering Companies of Illinois (ACEC-Illinois) is currently accepting applications for its Annual Scholarship Awards Program. Information and applications are available online at: www.acec-il.org/scholarship.cfm. The application deadline is December 14, 2007.

* Apply for the Anita Borg Memorial Scholarship, a $10,000 for women in Computer Science, sponsored by Google. Deadline is February 1, 2008.

* National Center for Women in Information Technology (NCWIT) Annual Conference - May 14th-May 15th 2008 - Volunteers will be needed!!!

* ChicTech Retreat - April 19th-20th 2008 - Volunteers/Counselors will be needed!!! Also, if interested in assisting with High School visits during the fall semester, please contact Samantha Chan at sdchan@uiuc.edu.* The EYH office (Expanding Your Horizons through Math, Science, and Technology) at ISU holds a one-day event in the spring. The event will be held on Saturday, April 5, 2008

Career Info: Jobs, Internships, Corporate Events, Contests and other opportunities

* Apple Day in CS! - Tuesday December 4, 2007, 3:30-5:30 pm in 2405 Siebel Center

* Interested in working on a research project? with the Knowledge Representation and Reasoning group - See Below

* GE Healthcare in Barrington, IL. program known as STP, or Software Technology Program, is looking to recruit December 07 and May 08 graduates for full-time positions.

Lectures, Symposia, etc.

Architecture Seminar, Friday, December 7, 2007, 4pm, 4405 SC, "Predictor Virtualization and RegionTracker: Two Ways of Exploiting Multi-Megabyte Caches", Andreas Moshovos University of Toronto

ADVISING AND COURSE INFORMATION

* Wondering who your advisor is?

Answer: You have more than one advisor! All students have a faculty advisor assigned to serve as a mentor, to answer questions about specializations, careers and graduate school. For routine questions about degree requirements, policies and procedures, visit the staff in the CS Academic Office -- the advising office for all CS, Math & CS, and Statistics & CS majors. Office hours are 8:00 to 11:45 am mornings and 1:00 to 4:45 afternoons, M-F. On rare occasions, the office may shut down for meetings or other events, but we usually limit these to an hour at most and schedule them during low-traffic times. You can also ask advising questions by emailing Steve Herzog, the full-time CS advisor, at
smherzog@uiuc.edu. To find out more about the academic office and the CS advising resources, visit the CS website’s undergraduate advising wiki at https://agora.cs.uiuc.edu/display/undergradProg/CS+Department+Advising.

* Peer Advisors wanted! Volunteer to field email questions from fellow CS, Math & CS, and Stats & CS students about courses, workload, student organizations, apartments, and other issues that students are best equipped to address.

We're looking particularly for seniors, juniors and sophomores. Please email Steve Herzog (smherzog@uiuc.edu) with the following information:

- Your name:
- Your program (CS, Math & CS or Stat & CS):
- Your netid:
- Issues that you are particularly well able to address (e.g. minors, student organizations, specializations, etc.):

* Discovery courses for freshmen for Spring 2008

The list of Discover Course offerings for Spring 2008 has been posted to the Provost’s website:

http://www.provost.uiuc.edu/programs/discovery/Courses.html

Registration in Discovery Courses or Discovery Sections of regular courses is limited to freshmen. Here’s the rationale for the program as presented by the university: “The Discovery Program helps Illinois students enhance their education through greater interaction with faculty in small classes. The interactive courses also enable faculty to share their research in a particular area with students. It is intended for first-year students only.

Discovery sections cover a wide range of disciplines and enrollment is limited to a maximum of twenty students per section. Some Discovery courses can be used to satisfy General Education requirements or requirements in a major, while others are electives. Check with your adviser to find out if a Discovery course satisfies a requirement for you.”

Top 10 Secrets for Breaking into Computer Science / Computer Engineering Fields

We recently polled our mentors for their Top 10 best secrets for helping students break into careers in computer science and computer engineering fields.

Here's what they told us:

#1: Consider getting more than one mentor. Get an academic mentor to help you with school strategies, a professional mentor to help you make career path choices, and another mentor working in a field that interests you to learn more about the reality and challenges of his or her job.

#2: Start getting internships in year one of your college program. How many internships you experience is not as important as getting as much meaningful work experience as possible. In computer science and engineering, meaningful work can vary from defining requirements for a solution to developing a solution, writing code for a part of a solution, writing test tools, and testing and installing solutions.

#3: Stay aware of current trends in your field and keep your skills up to date on the latest tools.

#4: Avoid getting a retail or fast-food job to support yourself while in college; instead, seek out related work experience.

#5: Consider scouting for jobs at smaller companies and nonprofits where there will be less competition and the potential for greater responsibilities and learning experiences.

#6: Register at temporary agencies, not only to get experience related to your field but to check out corporate cultures, network, and learn where you feel most comfortable.

#7: Better to take a low-paying job that offers meaningful work experience than a high-paying job of any kind not related to your field.

#8: If you can’t get an internship, work on a project on your own to demonstrate initiative and drive or volunteer to help with someone else’s team project.

#9: Students who can demonstrate self-drive and project experience will rank higher with interviewers. Build something you can show off and be able to discuss the process you used to build it.

#10: Diversity is strength. Seek out mentors and work experiences that will introduce you to a diversity of cultures and a variety of leadership styles. If you can, go home with a friend during school break to visit a different part of the country. Learn Chinese and other languages.

* TEFL (Teaching English as a Foreign Language) Institute will be on campus on November 28th

Information Table: 11-2pm Southeast Foyer of the Illini Union (near the ATM Machines)

Information Session: 6pm-7pm at The Career Center, 715 S. Wright Street, Champaign.

Details Below:

Live and Work Overseas Teaching English!!! Want some International experience for your resume? About to graduate and looking for a job? Trying to figure out what to do over the summer? Come learn more about teaching English abroad with the TEFL Institute!!! The TEFL will be hosting an information session for all interested students on November 29th from 6:00-7:00pm at The Career Center, 715 S. Wright Street.
LING 591 SPRING 2008 Seminar:
Computational Semantics for Natural Language
Instructor: Prof. Roxana Girju (girju@uiuc.edu)
Time: 01:00- 02:20 pm Monday and Wednesday

Course Description:

Semantics is the study of meaning and knowledge of semantics is important for the understanding of everyday language. Computational Semantics provides models for the creation of various kinds of advanced tools for the automatic processing of natural language, with applications to machine translation, automatic indexing, (multilingual) question answering, textual entailment, text coherence, and so on.

This course provides an introduction to some of the major concepts and recent developments in the computational semantics of natural language. It introduces material that is relevant to computer science, engineering and linguistics. Topics include various representation schemes required for semantic analysis beyond word meaning, with focus on polysemy, metonymy, predicate-argument structure, intentionality, and discourse.

The goals are to provide an overview of the field of Computational Semantics, including concepts, methods, and tools from both a Theoretical Linguistics and a Language Engineering perspective. Moreover, students will become familiar with the techniques and tools needed to develop semantic-based systems. The course will cover fundamental issues in state of the art Computational Semantics tools such as Semantic Parsing, and present its application to Question Answering, Textual Entailment, and Text-to-Scene/Image Generation. The course will also tackle advanced issues, such as techniques and challenges in automatic semantic processing of multilingual corpora.

Organization:

Lecture presentations and guided discussions based on reading of prepared material. Case studies and examples will be used to illustrate the practical application of the main concepts, methods, and tools.

Prerequisites:

The course is open to Linguistics, Computer Science, Computer Engineering, and Library and Information Science students. Background in at least one of the following (or equivalent) courses is required:

LING 406 (Introduction to Computational Linguistics), CS 598 DNR (Machine Learning and Natural Language), CS 546 (Pattern Recognition and Machine Learning), ECE 594 (Mathematical Models of Language), CS 225 (Data Structures), or CS 273 (Theory of Computation).

For more information contact Roxana Girju at girju@uiuc.edu(Also: Foreign Language Bldg. #4016B or 2043 Beckman Institute)

SCHOLARSHIPS, RESEARCH, CONFERENCES AND OTHER OPPORTUNITIES

*$30,000 Lemelson-Illinois Prize for Student Innovation

It is time once again for the call for entries for the $30,000 Lemelson-Illinois Student Prize for invention and innovation, administered by the College of Engineering through the Technology Entrepreneur Center. Applications are available online at www.30kprize.uiuc.edu, or at the Technology Entrepreneur Center (313 Ceramics Building, 105 S. Goodwin Ave., Urbana). Applications are due by 5:00 PM on November 30, 2007.

Have questions? You can attend an information session to learn more about the prize...there are two information sessions remaining. Dinner will be served at all info sessions.

The prize is open to all undergraduate and graduate students at the University of Illinois at Urbana-Champaign, regardless of major or department. The goals of the prize are to reward those students who exemplify the innovation and invention occurring at the University. You can learn more about the prize at www.30kprize.uiuc.edu.

* The CCSC South Central Conference professional papers submission deadline is fast approaching. November 5th is just two weeks ahead. This is just a reminder for those that may be considering submitting their work. The CCSC South Central Regional Conference has become a significant medium of information exchange in several areas of computer science teaching and research. In April, the conference will be hosted by Texas A&M University - Corpus Christ, The Island University, in Corpus Christ, Texas.

Papers on a diversity of topics in teaching computer science, introducing new subjects in the curriculum, and advanced research results from teaching-oriented institutions are solicited. Two main themes are going to be highlighted this year: Computer and Network Security, and Software Engineering Concepts and Applications. However, papers in all areas will be considered. This is your chance to participate by submitting a paper, tutorial, panel proposal, or just attend the conference.

Attached to this message, you will find the first call for submissions. Any questions you may have can be addressed to any of the Conference Committee members.

Important dates are:

Deadline for submission of regular papers: November 5, 2007
Deadline for submission of panels and tutorials: November 21, 2007
Deadline for submission of student papers: November 26, 2007
Deadline for submission of student posters: April 1, 2008
Conference dates: April 18 and 19, 2008

We hope to see you there!
If you do not want to receive any other information about the conference, please notify the publicity chair, Dr. Nelson Passos at nelson.passos@mwsu.edu.

Apply for the U.S. Department of Energy’s summer research program at Argonne National Laboratory - application deadline, February 1, 2008.

The U.S. Department of Energy’s (DOE) Argonne National Laboratory, a major research center, is pleased to announce opportunities for college and university undergraduate students to participate in the Laboratory’s ongoing research programs. In addition to such opportunities, the U.S. Department of Energy is directly sponsoring research participation at other DOE facilities. For more details, see the following:

http://www.dep.anl.gov/p_undergrad/summer.htm

The American Council of Engineering Companies of Illinois (ACEC-Illinois) is currently accepting applications for its Annual Scholarship Awards Program. Eligible candidates must be:

- U.S. citizens
- currently enrolled in an ABET (Accreditation Board for Engineering & Technology) accredited engineering program in Illinois
- pursuing a Bachelor's, Master's, or PhD degree
- entering their Junior, Senior, Fifth, Master's or Graduate year in the Fall of 2008. Scholarship award winners will be selected by a committee of ACEC-Illinois Member Firm Principals and based on academic excellence, recommendations and an essay addressing the topic “What is the role or responsibility of the consulting engineer or land surveyor relative to shaping and protecting the natural environment?” Scholarships are awarded in June 2008. Last year, ACEC-Illinois awarded $23,500 to 14 students at the state level. The top applicant received a $4,000 scholarship and thirteen students each received a $1,500 “Named” Scholarship sponsored by ACEC-Illinois Member Firms. In addition, each year the top applicant is forwarded to the American Council of Engineering Companies (ACEC) for the National Scholarship program, where they compete for additional Scholarship Awards.

Information and applications are available online at: www.acec-il.org/scholarship.cfm. The application deadline is December 14, 2007.

Anita Borg Memorial Scholarship

Dr. Anita Borg (1949 - 2003) devoted her life to revolutionizing the way we think about technology and dismantling the barriers that keep women and minorities from entering the computing and technology fields.

As part of Google’s ongoing commitment to furthering Anita's vision, we are pleased to announce the 2008 Google Anita Borg Scholarship. A group of female undergraduate and graduate students will each receive a $10,000 scholarship for the 2008-2009 academic year. All finalists and recipients will also be invited to an all-expenses paid trip to the Google Headquarters in California April 3-5, 2008.

Eligibility Requirements

Candidates must be:
- Entering their senior year of undergraduate study or be enrolled in a graduate program in 2008 - 2009 at a university in the United States
- Computer Science, Computer Engineering, or related technical field majors
- Enrolled in full-time study in 2008 - 2009
- Maintain a cumulative GPA of at least 3.5 on a 4.0 scale or 4.5 on a 5.0 scale or equivalent in their current program

For complete details, please visit us at http://www.google.com/anitaborg

Application deadline is Friday, February 1, 2008.

The National Center for Women in Information Technology (NCWIT) Annual Conference - May 14th-May 15th 2008 - Volunteers will be needed!!

NCWIT Conference
When: May 14-15th
Where: UIUC
Contact: Sonya Harris (lharris2@uiuc.edu)

The mission of the National Center for Women & Information Technology is to ensure that women are fully represented in the influential world of information technology and computing. And they are holding their conference here at UIUC!! We’re looking for volunteers to help out this event. This is a NATIONAL event and it will favor highly for our Department to host this event. If you’re interested, contact Sonya and more information is to follow.
If you and/or your group are interested in leading a workshop for this event, please contact Sonya Harris (lharris2@uiuc.edu). Cinda and/or Prof. Pitt can train female students on possible hands-on activities.

**The event will be held on Saturday, April 5, 2008** so you will have plenty of time to plan an exciting hands-on activity for the girls. You can also get more information regarding the event by going to their website at www.eyh.ilstu.edu.

http://www.eyh.ilstu.edu/

EYH office (Expanding Your Horizons through Math, Science, and Technology) at ISU holds a one-day event in the spring to promote an increase in the number of young women who pursue education and careers that involve math, science, and/or technology.

The day revolves around three hands-on workshops, during which participants in grades 5-10 have the opportunity to learn from women experienced in a career based in science, math, or technology.

If you are interested in working on neuroscience-motivated algorithms.

I am Postdoc associated with the Knowledge Representation and Reasoning group and am looking for motivated student(s) that would be interested in working on neuroscience-motivated algorithms.

We have developed a new classification algorithm and will be comparing it with current methods. Projects include: comparisons between classifiers, development/testing of appropriate machine learning algorithms, merging models and evaluation of 'recognition logic'. Some relevant coursework in these aspects is preferred.

If interested, please contact Tsvi Achler achler@uiuc.edu.

My name is Alex, and I'm a UIUC compsci alum (graduated in May 07) currently working for GE Healthcare in Barrington, IL. I am part of a program known as STP, or Software Technology Program, and we're looking to recruit December 07 and May 08 graduates for full-time positions. Though you can read below for a more detailed description, STP is a great deal if you're interested in a software development job after college; you'll have a variety of rotational assignments to expose you to many products in different stages of the development lifecycle, you'll recieve a MS in computer science from UIUC (which GE will pay for up front), and finally you'll get plenty of in-house training as well.

It seems as if STP is not as well-known as GE's other leadership development programs, so we're trying to reach out to student groups on different campuses to try and spread the word. If you can forward this along to the rest of your organization I'd appreciate it quite a bit. As I mentioned, we're primarily looking for full-time employees, but we've also got a few internship opportunities if anyone is interested but will not be graduating in the next academic year. If you're interested in the STP program and would like to apply, please follow the directions referenced below and submit your resume through the STP program.

Below is the official description of the program. Thanks for your time.

- Alex

The Software Technology Program is an intense three-year, full-time, rotational assignment program currently offered at GE Healthcare. It is focused on software engineering and medical informatics with the mission of hiring, growing and nurturing the best software engineering talent. It includes a masters degree in Computer Science, academic training in Medical Informatics, and a variety of on the job technical projects and experiences aligned with critical business objectives that provide the skills necessary for future technical innovators at GE.

We are looking for fresh graduates with a 4-year bachelors degree in CS or CE with a strong technical aptitude and passion for software and IT and who wish to pursue a career in software engineering, design and development. A minimum GPA of 3.0 and unrestricted authorization to work in the US is required. We are currently recruiting for 2008 and looking for engineers graduating from college either in Dec 2007 or May 2008.

If you would like to hear more about this program please feel free to contact me. If you are interested in applying for this position I advise that you apply for this through gecareers.com ASAP, as the application deadline is approaching quickly. If you have any questions about the program, feel free to send me an e-mail as I'd be more than happy to talk to you. The more Illini we can get up here, the better.
“Predictor Virtualization and RegionTracker: Two Ways of Exploiting Multi-Megabyte Caches”

Modern on-chip caches continue to grow in size with multi-megabyte caches being the norm today. Two techniques that revisit the design and role of on-chip caches will be presented: Predictor Virtualization and RegionTracker.

Predictor Virtualization can drastically reduce the cost or improving the accuracy and effectiveness of predictor-based techniques. Instead of demanding large, dedicated resources, Predictor Virtualization spills metadata in the memory hierarchy. It will be shown that a virtualized state-of-the-art memory prefetcher needs about 1KB of dedicated resources compared to the 70KB needed without virtualization. A number of additional opportunities facilitated by Predictor Virtualization will be discussed.

RegionTracker is a framework for implementing coarse-grain optimizations in the on-chip memory hierarchy. As several recent works have demonstrated, coarse-grain information and management can improve performance and power in the on-chip memory hierarchy. RegionTracker aims at eliminating the area and complexity costs associated with existing ways of implementing such coarse-grain optimizations. To demonstrate the potential of RegionTracker, it will be shown that it improves the effectiveness of a broadcast elimination technique "for free", that is without requiring any additional resources compared to a conventional block-based cache of the same capacity. Implementing Stealth Prefetching over RegionTracker will also be discussed.

BIO: Andreas Moshovos is an Associate Professor at the Department of Electrical and Computer Engineering of the University of Toronto. Along with several students he has been developing performance and power optimization techniques for high-end processors some of which have been implemented in commercial designs.