COMPUTER SCIENCE DEPT GOODNEWS 07-08

Steve Marschner will be Program Co-Chair for the 2008 Eurographics Symposium on Rendering.

Doug James and his just-defended Ph.D. student **Jernej Barbic** (CMU) received the best paper award at the 2007 ACM SIGGRAPH/Eurographics Symposium on Computer Animation for their paper on "Time-critical distributed contact for 6-DoF haptic rendering of adaptively sampled reduced deformable models."

http://www.cs.cornell.edu/~djames/research/

Fedora Commons http://www.fedora-commons.org has been awarded a four-year grant from the Gordon and Betty Moore Foundation to develop open-source software for building collaborative information communities. Sandy Payette, Information Science, is Executive Director of Fedora Commons.

Two CS professors have been selected as recipients of a 2007 College of Engineering Excellence in Teaching Award:

Thorsten Joachims, winner of the Michael Tien '72 Award
Jon Kleinberg, winner of the Kenneth A. Goldman '71 Award

These awards are the highest awards for teaching in the college.

Lillian Lee won the Cornell Provost's Award for Distinguished Scholarship for her research in Natural Language Processing. The award is given to recognize distinguished research by outstanding tenured faculty early in their career.

David Gries and John Hopcroft are giving the two keynote addresses at the International Forum on Computer Science and Advanced Software Technology to be held at Jiangxi Normal University, 7-10 June 2007.

Fred Schneider is invited to serve on the Computing Community Consortium, an organization established by the Computing Research Association (CRA) under an agreement with the National Science Foundation. The goal of the Consortium is to articulate and pursue longer-term research visions for the computing community - visions that will capture the imagination of our community and of the public at large.

Joe Halpern has been selected to be the ACSU faculty of the year.

The Best Paper Award at the 16th International World Wide Web Conference was given to **Lars Backstrom** (Cornell PhD student), **Cynthia Dwork** (Senior Researcher at Microsoft and Cornell alum), and **Jon Kleinberg** (Cornell faculty), for their paper, "Wherefore Art Thou R3579X? Anonymized Social Networks, Hidden Patterns, and Structural Steganography". The paper, presented by Lars at the conference in Banff, is concerned with the ways in which anonymization can fail to protect the privacy of individual nodes in social network data. See http://www2007.org/awards.php for more details.

Kavita Bala's work on the Kalachakra Mandala project has been featured in The Cornell Chronicle: http://www.news.cornell.edu/stories/Sept07/mandala.gl.html.

These animations can be viewed at two different kiosks on campus:

- Kroch Library (located inside Olin Library) -- This display is part of the "Bridging Worlds" exhibition and will be on display until mid-November.
- Johnson Museum of Art -- Part of "The Art and Culture of Tibet" Day, October 13. Kavita will be on site with the demo.

Gun Sirer has been selected as one of Popular Science's 6th Annual Brilliant Ten.

Popular Science magazine selects each year selects 10 of the most impressive and creative young scientists in the US; The most important research and the individuals making it happen.

For more information, see
http://www.popsci.com/popsci/science/8986e1bddf565110vgnvcm1000004eecbccdrcrd/8.html

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Jon Kleinberg has been chosen as one of Smithsonian Magazine's "37 Under 36: America's Young Innovators in the Arts and Sciences."

From the Web site and special issue, the list consists of "37 people under the age of 36 who are helping to shape the world. Those honored are scholars, singers, writers, scientists, musicians, painters, activists --- and more than one public-spirited computer maven."

See
http://images.smithsonianmag.com/content/innovators/
and
http://www.smithsonianmag.com/specialsections/innovators/kleinberg.html
for more information.

A Cornell paper received a best paper award at SOSP'07 this year: "Secure Web Applications via Automatic Partitioning," by **Stephen Chong, Jed Liu, Andrew Myers, K. Vikram, Xin Qi, Lantian Zheng, Xin Zheng**. This paper shows that it is possible to automatically and securely partition web applications into client-side JavaScript code and server-side Java code.

Fred Schneider's paper "Implementing Fault-Tolerant Services Using the State Machine

Approach: a tutorial" of ACM Computing Surveys 22(4):299-319, Dec. 1990, has been selected as a winner of this year's SIGOPS "Hall of Fame" award (<http://www.sigops.org/awards/hall-of-fame.html>). The award was established in 2005 "to recognize the most influential Operating Systems papers that have appeared in the peer-reviewed literature at least ten years in the past."

PhD students **Michael Clarkson** (CS) and Rajeev Dokania (ECE) both are awarded a 2007-2008 Intel Foundation PhD fellowship. Michael works on compiler technology in software technology and design.

2007 DARPA Urban Challenge: Cornell was one of only six teams to finish the final race (out of 35 at the qualifiers and 11 that started the final race). It was a student-led team primarily composed of undergraduates. Faculty advisors are **Dan Huttenlocher** and Ephrahim Garcia. Read more at
http://www.news.cornell.edu/stories/Nov07/DarpaUrban.final.ws.html

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Three Cornell CS undergraduates, **Kareem Amin; Siu Yu Cherie Kwan; and Tyler Steele**, all received Honorable Mention in the Computing Research Association's Outstanding Undergraduate Award competition for 2008. Congratulations!

Cornell team finishes first in ACM's regional programming contest. The team consisted of **Hooyeon Lee, Anand Bhaskar and Dustin Tseng**, and was coached by CS PhD student **Lars Backstrom**. Two other Cornell teams placed 11th and 16th. See Cornell Chronicle article for full story http://www.news.cornell.edu/stories/Nov07/ACMcontest07.ws.html.

ACM named **Dan Huttenlocher** as one of the 38 new ACM Fellows. ACM Fellows are recognized for their contributions to computing technology that have brought advances in the way people live and work throughout the world. The new ACM Fellows, from the world's leading universities, industries, and research labs, created innovations in a range of computing disciplines that affect theory and practice, education and entertainment, industry and commerce.
http://www.acm.org/press-room/news-releases/fellows-2007/view

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The David and Lucile Packard Foundation has named **Adam Siepel** as one of 20 new promising scientific researchers as the 2007 recipients of Packard Fellowships for Science and Engineering:
http://www.packard.org/fellowsList.aspx?RootCatID=3&CategoryID=70

Jian (Jimmy) Liu (CS major, senior) won the Cornell Concerto Competition last week. This is the competition's fourth year and there were well over 20 strong competitors on a wide variety of instruments. The competition was judged by an outside panel. As winner, Jimmy will be the featured soloist with the University Orchestra in March playing the Prokofiev 1st violin concerto.

Carl Lagoze has received a two-year grant from Microsoft to investigate and implement revolutionary advances in open access chemistry scholarship. The "eChemistry" project is a

collaboration with Cambridge (UK), Indiana, Penn State, and Southampton. This work will build on the Object Reuse and Exchange interoperability standards being developed by Lagoze in collaboration with Herbert van de Sompel at Los Alamos.

The 12th release of the popular Fedora software is now available for testing. The first beta version of Fedora 3.0 featuring a Content Model Architecture (CMA), an integrated structure for persisting and delivering the essential characteristics of digital objects in Fedora, is available at http://www.fedora-commons.org/. The Fedora CMA plays a central role in the Fedora architecture, in many ways forming the over-arching conceptual framework for future development of Fedora Repositories.

Rafael Pass has been awarded an AFOSR grant of $396K for his project, "Concurrent Security of Cryptographic Protocols: From Foundations to Practice".

Lillian Lee has been named a Cornell Institute for the Social Sciences (ISS) Faculty Fellow for the Fall 2008 semester. Her project title is, "The verbal end: Interactions between computational textual analysis and the social sciences."

The primary purpose of this new in-residence program is to nurture the careers of Cornell University's most promising assistant and associate faculty members in the social sciences. The program is also designed to promote an environment of intellectual exchange and an appreciation for interdisciplinary scholarship. All Fellows are provided with an office at the ISS and are awarded a research grant of $10,000.

http://www.socialsciences.cornell.edu/Fellows_Desc.html

Dr. Wojciech Moczydlowski won the Sacks Prize from the Association for Symbolic Logic for his thesis Investigations on Sets and Types. Wojtek's work created a new way to analyze constructive set theories and relate them to type theory. His work makes it possible to share formal results produced by set theory based theorem provers such as Mizar and B with the type theory based provers such as Coq, HOL, Nuprl.

Jon Kleinberg has been elected to the **National Academy of Engineering**! Congratulations, Jon!! See the press release announcing the new class of NAE members at http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=02082008

Cornell SOSP paper (by Stephen Chong, Jed Liu, **Andrew Myers**, Xin Qi, K. Vikram. Lantien Zheng, Xin Zhen) on creating secure Web applications is discussed in darkreading.com http://www.darkreading.com/document.asp?doc_id=143639&WT.svl=column1_2 and also made the ACM News summary:

Developers will be able to easily create secure, robust, and high-performance Web applications using a new system called Swift. Developed by a group at Cornell University, Swift allows developers to write code using a variant of Java, applying sensitivity labels to variables. Developers then feed the code into a series of programs that use the labels to determine which

code is to reside on the server, on the client, and in both places. The code handles synchronization, and translates the requisite client code into JavaScript. The resulting application will not be as fast as an optimally designed system, but the performance cost should be minimal. Client code is generated using the Google Web Toolkit with fixes transparently adopted by a simple recompilation, and although the code is exposed to any bugs in the toolkit, developers are able to use a suitable client-side framework due t= o the loose coupling of the front end. Swift was the subject of a paper at the 2007 ACM Symposium on Operating Systems Principles.

Andrew Myers has also been awarded an **AFRL grant** of $596K for his project, "Accountable information flow for Java-based web applications".

Nitin Gupta - MSR Fellowship Award
We are pleased to announce Nitin's selection as a Microsoft Research Fellow. Competition for the Fellowships was extremely intense as they received over 140 very highly qualified applications. Microsoft conducted interviews with 56 applicants for 12 Microsoft Research fellowships and four Microsoft Live Labs fellowships. Thus, selection for this award is a tremendous honor and recognition of accomplishments.

Yisong Yue - Microsoft Live Labs Fellowship Award
We are pleased to announce Yisong's selection as a Microsoft Live Labs Fellow. Competition for the fellowship was extremely intense as we received over 140 very highly qualified applications. Microsoft conducted interviews with 56 applicants for four Live Labs fellowships and 12 Microsoft Research fellowships. Thus, selection for this award is a tremendous honor and recognition of accomplishments.

Yisong Yue also received The **Yahoo! Key Technical Challenges Grant**. This is a new Yahoo! program that provides a limited number of exceptional PhD students with $5,000 each of unrestricted funds for the support of their research activities (e.g., conference fees and travel, lab materials, professional society membership dues, etc.).

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Bobby Kleinberg won a Sloan Research Fellowship.
See http://www.sloan.org/programs/fellowshiplist.shtml for the full list of this year's fellowship recipients

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Rafael N. Pass has been awarded a National Science Foundation CAREER grant of $450,000 for support of the project, entitled "CAREER: Computation and Collaboration in the Era of the Internet."

PhD student **Yisong Yue**, who works on machine learning, is another winner of a Yahoo! Key Technical Challenge grant, along with Ymir Vigfusson (previously announced). The Key Technical Challenges Program is a new Yahoo! program that provides a limited number of exceptional PhD students with $5,000 each of unrestricted funds for the support of their research activities.

http://www.yisongyue.com/

Andrew Myers will co-chair the program committee of the 2009 IEEE Symposium on Security and Privacy (aka "Oakland").

IN THE NEWS:
Cyberscholarship: High Performance Computing Meets Digital Libraries Journal of Electronic Publishing (Quarter 1, 2008) Vol. 11, No. 1,
Arms, William Y.

The convergence of high-performance computing and digital libraries is giving birth to new forms of research that are classified as "cyberscholarship," which is only possible when there are digital libraries with extensive collections in a wide-ranging domain, writes Cornell University computer science professor William Y. Arms. There must be new strategies for organizing and using library collections in order to exploit cyberscholarship opportunities. For example, the National Virtual Observatory is designed to integrate previously disconnected astronomical datasets through the provision of coordinated access to distributed data since the datasets are archived at many locations. There is limited experience to direct the development of cyberscholarship applications, and among the lessons that such applications have yielded is the need for market research and incremental development of cyberscholarship requirements, which in turn requires flexible organization and tight cooperation between researchers, publishers, and librarians. The existence and accessibility of data in machine-readable formats is critical to cyberscholarship, while issues of policy should not be discounted and custodianship involves the preservation of the content as well as the identifying metadata. Tools and services that cyberscholarship needs include APIs that enable direct interaction between computer programs and collections, and instruments that can identify and download sub-collections, which require digital libraries to be designed so that programs can extract large portions. High-performance computing is an essential ingredient of very big collections, and the use of high-performance computing systems by researchers who are not computing specialists remains a major challenge.
Click Here to View Full Article

John Hopcroft to Receive Honorary Degree
The University of Sydney will award John Hopcroft, along with Sir William Tyree, an honorary doctorate on May 16. John is being recognized for his research contribution to theoretical computer science and his work in third world countries.

Daisy Fan has been awarded the 2008 Zellman Warhaft Commitment to Diversity Award. This award recognizes faculty for their commitment to diversity issues, as well as their participation

in the many activities and programs coordinated by the Diversity Programs in Engineering (DPE) office. The award includes a monetary gift.

Dexter Kozen gave the keynote lecture at the 9th International Workshop on Coalgebraic Methods in Computer Science (CMCS) in Budapest.
http://www.cwi.nl/projects/cmcs08/

He will also be giving an invited talk, "Nonlocal Flow of Control and Kleene Algebra with Tests", at LICS 2008.
http://www2.informatik.hu-berlin.de/lics/lics08/invited08.html

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Gun Sirer will co-chair the 2009 Symposium on Networked System Design and Implementation.

Anna Blasiak was awarded the: AT&T Fellowship; NDSEG Fellowship & NSF Fellowship. Congratulations Anna!

Ben Sowell has been awarded the NDSEG Fellowship. Congratulations, Ben!

Bobby Kleinberg has been selected as a 2008 recipient of a Microsoft New Faculty Fellowship. "Each year, five up-and-coming new faculty members are chosen for these awards from universities throughout North America". Faculty Fellows are awarded a $200,000 (USD) grant to stimulate creative research in their respective fields.

The current Cornell Chronicle and the current issue of the journal Science discuss a paper by David Liben-Nowell and **Jon Kleinberg**.
(David is Cornell class of '99, and a former winner of the department's Prize for Academic Excellence given at graduation. He's now an assistant professor of CS at Carleton College.) Their paper appears in the Proceedings of the National Academy of Sciences and analyzes the spread of Internet chain letters, using them as a way to study the broader problem of how information flows through social networks.

The Cornell Chronicle article is on-line a
http://www.news.cornell.edu/stories/April08/chainletters.ws.html
The paper was featured by the journal Science in its section "Editors' Choice: Highlights of the recent literature", on-line at
http://www.sciencemag.org/cgi/content/full/320/5873/156d

Adam Arbree placed 2nd in the Guenther Enderle Award for Best Student Paper at Eurographics 2008 for his paper "Single-pass Scalable Subsurface Rendering with Lightcuts" (coauthors B Walter and K Bala).

Milos Hasan won the NVidia 2008-2009 Fellowship. The NVIDIA Fellowship Program provides funding to Ph.D. students who are researching topics that will lead to major advances in the graphics and digital media industry.

Alex Niculescu-Mizil and **Yogi Sharma** won the Machine Learning Journal Best Student Paper Award for COLT 2008, for their paper "Regret Bounds for Sleeping Experts and Bandits", jointly authored with Bobby Kleinberg. The paper will be presented at COLT in Helsinki this July.