College of Information Studies
University of Maryland
Dr. Jennifer Preece, Dean

Research @ the iSchool

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Cloud Computing Research: Changing the Ways We Think

Cloud computing technology could alter the very nature of computing in the near future according to **Dr. Jimmy Lin.** Dr. Lin is part of a research initiative that has been examining the use of large computer clusters in remote centralized data centers to "crunch" enormous amounts of data. These powerful networked clusters have a greater capacity to process large scale datasets than desktop computers. By sharing capacity and running in parallel, processing speed is dramatically improved.

Dr. Lin's course on cloud computing, offered for the first time in Spring 2008, was developed with the goal of integrating research and education. His core idea was to put together teams of graduate and undergraduate students to explore open research problems. Students developed new techniques for resolving the identity of people mentioned in archived email collections, for identifying text in picture books, for modeling word usage in English, for translating documents from Arabic into English, and for biological sequence alignment.

Dr. Lin believes that we need to rethink how we prepare students for "real world" problems. Traditionally we teach students to think sequentially, where things happen one at a time, one after another. The challenge now is to get them to think in parallel, where hundreds or thousands of things are happening at the same time.

To date this research has resulted in three conference papers and, in collaboration with **Dr. Paul Jaeger** of the iSchool's Center for Information Policy and E-Government, a journal article.

Spanning Generations: Improving Access to Health Information

Dr. Bo Xie received an award from the National Library of Medicine to develop an innovative program to help older adults find health information using Web-based information services. Dr. Xie investigates learning styles and effects of individual preferences in order to develop training strategies that best meet the needs of this rapidly growing population. Specific issues being addressed include computer efficacy, interest, and anxiety, and the usability of health information Web sites.

The program is designed around a series of classes conducted in a small-group setting in a public library venue. More than one hundred adults with ages between 56 and 85 have participated to date, and as word of the program has spread among the community waiting lists are continuing to grow.

A key to the program's success has been Dr. Xie's long-term collaboration with the Prince George's County Memorial Library System, the project's partner from an earlier Community Partners Program seed grant from the University. In addition to providing instructional staff and computer facilities, the library system plays a key role in recruiting participants.

After eight sessions over four weeks, about one quarter of all participants reported that they had based at least one health-related decision on something that they had learned through their participation in the program. Dr. Xie now plans to draw on the library's continuing relationship with many of the program's participants to extend these initial results to include assessment of longer term attitudinal and behavioral outcomes as well.

Students in Action

Sheri Massey conducted teacher training in the use of the International Children's Digital Library to three rural schools in Mongolia in November 2007.

G. Craig Murray spent Fall 2007 analyzing query logs to predicatively model user interest in advertising keywords as an intern at Microsoft Live Labs in Redmond, WA. He has a patent pending for that research.

Xiaoli Huang and **Pengyi Zhang** received two of the six annual Eugene Garfield dissertation fellowships from Beta Phi Mu.

Justin Grimes won a 1st place at Maryland's annual Graduate Research Interaction Day.

Christina Pikas spoke on designing online communities for scientists and engineers at the Defense Technical Information Center.

New Grants

Dr. Diane Barlow: $60,000 from the Department of Defense as part of a team led by L3 Communications to develop undergraduate courses for a new analyst training program.

Dr. Allison Druin: $200,000 from the National Park Service to study children's online information needs and $75,000 from Google to study children's use of that search engine.

Dr. Ken Fleischmann: $150,000 from the National Science Foundation to lead a team to develop and evaluate an educational simulation for computing and information ethics.

Dr. Jennifer Golbeck: $30,000 from the Navy as part of a team led by Intelligent Automation Inc. on game-theoretic simulation techniques for generation of asymmetric strategies.

Dr. Jennifer Golbeck and **Dr. Douglas Oard:** $60,000 from Maryland's Vice President for Research to develop new approaches to automatically identifying research expertise of faculty.

Stephen Hannestad: $185,000 in additional funds from multiple government agencies for the Center for Information Policy & E-Government 'CIPEG in the Federal Government' program.

Dr. Derek Hansen: $8,750 from Maryland's General Research Board to investigate new ways of leveraging online patient communities to facilitate the conduct of clinical trials.

Cassandra Jones: $54,000 in additional funds from the State of Maryland to provide library services for the Maryland AIDS Administration.

Dr. Kari Kraus: $150,000 from the Library of Congress' Digital Preservation program as part of a team led by the University of Illinois to explore new ways of preserving virtual worlds.

Dr. Jimmy Lin: $245,000 from the National Science Foundation as part of a team developing summarization technology to help people deepen their understanding of unfamiliar fields.

Dr. Douglas Oard and **Dr. Jimmy Lin:** $1,019,000 in additional funds from DARPA as part of a team led by IBM Research that is developing new speech and language technologies.

Dr. Ping Wang, **Dr. Douglas Oard, Dr. Ken Fleischmann**: $718,000 from NSF to develop new techniques for analyzing trends in information technologies.

New Faculty

Dr. Kari Kraus, assistant professor, has a joint appointment in the English Department. She received her Ph.D. in English from the University of Rochester. Her research interests focus on new media and the digital humanities, digital preservation, intellectual property, and image metadata.

Dr. Derek Hansen, assistant professor, has a Ph.D. from the University of Michigan's School of Information. His areas of interest include large-scale collaboration, online communities, consumer health informatics, information economics, and information mediation.

Dr. Scott Paquette, assistant, professor, completed his Ph.D. at the University of Toronto's Faculty of Information Studies. His research interests focus on knowledge management, including development and dissemination of climate change knowledge, and how organizations acquire knowledge from their customers.

Dr. N. David Yates, assistant professor, earned his Ph.D. from the Marshall School of Business at the University of Southern California. His research addresses organizational use of collaborative technologies for learning and innovation, the structure of online knowledge repositories, and social creativity.

Short Takes

Dean Jennifer Preece and **Provost Nariman Farvardin** cut the ribbon to open the iSchool's new research facility on February 20. A Research Review Day with posters, demonstrations and short talks by iSchool faculty and students kicked off the event.

Dr. Bruce Ambacher was selected by the Mid-Atlantic Regional Archives Conference to receive its 2008 Distinguished Service Award for his exceptional contributions to the archival profession.

Dr. Ann Weeks, doctoral students **Leshell Hatley** and **Sheri Massey**, and faculty research assistant **Mary Ramos** are assessing the impact of library media supervisor staffing on the quality of services in 56 large urban school districts in the U.S.

For more information: http://www.ischool.umd.edu/research

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