University of Minnesota

Soundbyte
Newsletter of the Department of Computer Science & Engineering
A department of the Institute of Technology

Spring | Summer 2007

Fighting HIV in Cyberspace
CSE Professor Joe Konstan and U epidemiologist use the Internet to help prevent HIV

By Robyn White

University of Minnesota researchers are finding new ways to save lives using computer science. CSE Professor Joseph Konstan and B. R. Simon Rosser, a University professor in the Division of Epidemiology and Community Health, have been working for more than five years to create computer systems to help prevent the spread of HIV, the virus that causes AIDS.

Konstan worked with Rosser and a team of scientists from across the University to develop an online assessment of the risks undertaken by men seeking sex with other men through online venues. Konstan and the team are also developing an online intervention program designed to reduce sexual risk-taking and sexually-transmitted infections.

Testing of the prevention software program started in June.

Rosser said using the Internet for prevention is essential, because sex is the most popular use for the Internet among high-risk, hidden populations, like gay men — still the highest risk group for HIV. “If we don’t do [HIV prevention outreach] right or in a way that’s most responsive, we’re going to have new HIV epidemics. There’s enormous urgency in addressing HIV prevention gaps,” he said.

Rosser, program director for the HIV/STI Intervention and Prevention Studies (HIPS), said his work with Konstan formed out of a discussion on ways to stop AIDS in the world using computers. That conversation ignited the first step in what has become a multi-phased, interdisciplinary project called the Men’s Internet Study (MINTS), researching the behavior and patterns of men who use the Internet to seek male sexual partners.

“At the time it was a fairly ambitious program,” Konstan said. Phase I of the study entailed building an online survey in which each question is determined by the user’s previous answers. The study targeted Latino men, because they are one of the highest risk groups for HIV, so the survey was made available in Spanish and English. Volunteers were reached by advertising through the Web site www.gay.com, which Rosser said boasts three million users.

“Joe’s role is to help us identify what we should be measuring, what we should be capturing,” Rosser said. He said Konstan also looks at the validity of the survey and for patterns in the survey results.

(Story continued on page 14)
The University of Minnesota’s Computer Science and Engineering (CSE) department is approaching its 40th anniversary. Hard work, an enterprising spirit, and many important accomplishments have played a key role in making the department what it is today.

To celebrate department accomplishments and current research excellence we are preparing a booklet to highlight the major achievements and innovations of the CSE department. To prepare the content, CSE Communications Coordinator Robyn White is conducting interviews and wading through decades of department photographs and news clippings. We enthusiastically encourage alumni input in the creation of this historic publication.

This keepsake booklet will debut at CSE’s sixth biennial Open House on Friday, October 5, 2007. The day long celebration is an excellent opportunity for alumni and our colleagues from industry and academia to gather with faculty and students. The day’s program will include research exhibits from faculty and industry supporters, a Distinguished Alumni Award luncheon, a keynote address, speakers, and a reception.

In the past decade the CSE department has grown from 25 to 39 faculty members and research funding has swelled to more than $6.7 million annually. Science Watch recently ranked the department in ninth place for the citation impact of published research papers among the top 100 federally funded universities. As you’ll see in this newsletter and at the open house, CSE has become one of the most vibrant and interdisciplinary departments in the college, University, and beyond.

We are very proud of the accomplishments of faculty and students who have made this possible, but it’s important that we look to the future.

To ensure this department continues to thrive for decades to come, we are harnessing our efforts to build upon the successes of computer science and engineering at the University of Minnesota. We have identified major goals for the department that, if met, will ensure that the department is able to continue to attract top faculty and students, and remain on the cutting edge of computer science technology.

The CSE department has set a goal of raising $5 million for graduate student fellowships and undergraduate scholarships that will support and build upon existing research excellence. The department is also seeking to raise $5 million for endowed chairs to retain and attract top faculty who put a premium on quality research and education. Lastly, the CSE department is seeking to attract more students, particularly women and students from other underrepresented groups, to meet the changing needs of industry.

Leadership demands talent and resources. In keeping with its history of achievement and excellence in the CSE department, we have set ambitious goals. Your continued support in meeting our goals is much appreciated!

We hope you’ll join us on October 5 to celebrate the past, present, and future of the CSE department. Please direct any suggestions or questions about the CSE booklet or Open House to Robyn White, rwhite@cs.umn.edu.

— Vipin Kumar, CSE Department Head and William Norris Professor
The Minnesota Daily highlighted Adjunct Professor Jamshid Vayghan’s software engineering class, in which students mix features from different Web sites to create unique new Web capabilities. (April 25, 2007)

The Minneapolis/St. Paul Business Journal and Star Tribune featured stories about an innovative Web site created by CSE graduate student Jesse Vig. The site allows users to send messages comprised of letter-shaped buildings from Google Maps and was nominated for the Best NetArt Web site of 2007 as part of the 11th annual Webby Awards. (April 13, 2007) Vig’s site also grabbed the attention of both the Pioneer Press newspaper and KSTP-TV News earlier in the year. (Feb. 8, 2007)

A column in The Gazette, a Canadian newspaper, touted an invention called Placemail – a location-sensitive, wireless technology created by CSE doctoral candidate and GAANN Fellow Pamela Ludford. (April 9, 2007)

The Minnesota Daily published a story about CSE junior Alex Lau’s ambitious creation of a Web class registration program for students called the ‘U of M Class Scheduler.’ (March 29, 2007)

KSTP-TV and WCCO Radio both featured stories about famed chimpanzee researcher Dr. Jane Goodall’s visit to the University of Minnesota campus to meet with CSE Professors Shashi Shekhar and Jaideep Srivastava, along with other University faculty. Shekhar and Srivastava are working on a project to analyze chimpanzee data through the University’s Jane Goodall Institute’s Center for Primate Studies. (March 20, 2007)

The Minnesota Daily featured CSE students Alex Dean, Zi Lin, and Erik Shimshock preparing to compete in the Association for Computing Machinery (ACM) 2007 International Collegiate Programming Contest (ICPC) World Finals held in Tokyo in March. CSE teaching faculty member Carl Sturtivant coached the team, which received an honorable mention at the competition. (March 9, 2007)

CSE Assistant Professor William Schuler served as a guest on a statewide U of M radio program called U of M Moment for a story called, “Improving Speech Recognition Technology.” (Feb. 21, 2007)

The Star Tribune featured CSE Professor and Director of the University of Minnesota Software Engineering Center (UMSEC) Mats Heimdahl in a story about potential glitches in the computer world due to this year’s early daylight-savings time change. (Feb. 19, 2007)

A story in Science News magazine featured CSE Professor Jaideep Srivastava, who discussed Web technology aimed at reducing fraud and illegal activity. (Jan. 12, 2007)

The South Coast Today, a Massachusetts newspaper, featured CSE Professor John Riedl in a story discussing the innovations and challenges of online movie recommender systems. (Jan. 28, 2007) Riedl also appeared in a story in the Asbury Park Press, a New Jersey newspaper, focused on a Web service that allows musicians to meet and play together on the Internet. (Feb. 8, 2007)

A column in The Gazette, a Canadian newspaper, touted an invention called Placemail – a location-sensitive, wireless technology created by CSE doctoral candidate and GAANN Fellow Pamela Ludford. (April 9, 2007)

The Minnesota Daily featured CSE students Alex Dean, Zi Lin, and Erik Shimshock preparing to compete in the Association for Computing Machinery (ACM) 2007 International Collegiate Programming Contest (ICPC) World Finals held in Tokyo in March. CSE teaching faculty member Carl Sturtivant coached the team, which received an honorable mention at the competition. (March 9, 2007)

CSE Assistant Professor William Schuler served as a guest on a statewide U of M radio program called U of M Moment for a story called, “Improving Speech Recognition Technology.” (Feb. 21, 2007)

The Star Tribune featured CSE Professor and Director of the University of Minnesota Software Engineering Center (UMSEC) Mats Heimdahl in a story about potential glitches in the computer world due to this year’s early daylight-savings time change. (Feb. 19, 2007)

A story in Science News magazine featured CSE Professor Jaideep Srivastava, who discussed Web technology aimed at reducing fraud and illegal activity. (Jan. 12, 2007)

The South Coast Today, a Massachusetts newspaper, featured CSE Professor John Riedl in a story discussing the innovations and challenges of online movie recommender systems. (Jan. 28, 2007) Riedl also appeared in a story in the Asbury Park Press, a New Jersey newspaper, focused on a Web service that allows musicians to meet and play together on the Internet. (Feb. 8, 2007)

The Minnesota Daily featured CSE Professor John Riedl in a story discussing the innovations and challenges of online movie recommender systems. (Jan. 28, 2007) Riedl also appeared in a story in the Asbury Park Press, a New Jersey newspaper, focused on a Web service that allows musicians to meet and play together on the Internet. (Feb. 8, 2007)

The Minnesota Daily featured CSE Professor and Director of the University of Minnesota Software Engineering Center (UMSEC) Mats Heimdahl in a story about potential glitches in the computer world due to this year’s early daylight-savings time change. (Feb. 19, 2007)

A story in Science News magazine featured CSE Professor Jaideep Srivastava, who discussed Web technology aimed at reducing fraud and illegal activity. (Jan. 12, 2007)

The South Coast Today, a Massachusetts newspaper, featured CSE Professor John Riedl in a story discussing the innovations and challenges of online movie recommender systems. (Jan. 28, 2007) Riedl also appeared in a story in the Asbury Park Press, a New Jersey newspaper, focused on a Web service that allows musicians to meet and play together on the Internet. (Feb. 8, 2007)

The Minnesota Daily featured CSE Professor John Riedl in a story discussing the innovations and challenges of online movie recommender systems. (Jan. 28, 2007) Riedl also appeared in a story in the Asbury Park Press, a New Jersey newspaper, focused on a Web service that allows musicians to meet and play together on the Internet. (Feb. 8, 2007)
CSE happenings

U of M hosts SIAM Data Mining Conference

The University of Minnesota hosted the SIAM Data Mining Conference April 26-28. The conference provided a venue for researchers addressing a myriad of data mining problems to present their work in front of their peers. The conference organization team included: Vipin Kumar, Dan Boley, and Jaideep Srivastava. As part of the conference the University’s Digital Technology Center hosted a data mining poster exhibition and reception, highlighting the data mining work at the University. The event also provided an overview of the University’s Data Mining Consortium, which promotes industrial participation in the University’s data mining activities.

CSE student group hosts monthly LAN parties

The CSE Association for Computing Machinery (ACM) student group hosted Local Area Network (LAN) parties for Institute of Technology students on campus in March and April. At the events 30-50 students linked their computers together for a night of gaming, free food, and camaraderie. The events were supported by the CSE department and sponsored by members of industry, who also used the gatherings as a recruitment tool. The group is hoping to make these gatherings monthly events during the school year.

Companies interested in sponsoring student LAN parties should send an e-mail to: industry_relations@cs.umn.edu.

CSE faculty testifies to Senate committee

CSE Professor John Riedl testified to a Minnesota Senate Committee on March 9, lobbying in favor of a bill advocating for Open Document Formatting (ODF). Sen. Don Betzold sponsored the bill, which the committee amended to encourage a study on ODF and passed on to a Financing Committee. Riedl said a switch to ODF would mean that formatting would be more accessible.

Software engineers explore global development at Code Freeze

Software engineering professionals and academics gathered on Jan. 11 to discuss global development and best practices in software engineering at Code Freeze, an annual software engineering symposium hosted by the University of Minnesota Software Engineering Center (UMSEC), part of the CSE department. The event drew guests from industry and academia to the McNamara Alumni Center for a day filled with speakers, workshops, tutorials, networking opportunities, and a wine reception. Planning is already underway for next year’s Code Freeze event in January 2008.

For more information, visit http://www.umsec.umn.edu.

CSE & University center establish transportation research program

The CSE department joined with the University’s Center for Transportation Studies (CTS) to establish the Security in Transportation Technology Research and Applications (SECTTRA) program in 2006. According to a CTS report, the program will expand transportation security education and research. CSE Professor Nikos Papanikolopoulos serves as the director of SECTTRA.

For more information, visit http://secttra.umn.edu.

CSE’s 2007 Technology Day Camp

The CSE department is again hosting a five-day technology summer camp Aug. 13-17 for middle school students in the Twin Cities. The camp targets underrepresented groups, such as girls and minorities. The goal is to interest students in science and technology and expose them to a college atmosphere.

For more information or to help sponsor the event, e-mail: industry_relations@cs.umn.edu
Upcoming CSE related events

U of M to host the International Conference on Electronic Commerce, August

The University of Minnesota will host the 9th International Conference on Electronic Commerce (ICEC) Aug. 19-22, 2007. The event will bring together scientific researchers and e-commerce professionals from around the world.

CSE Professor and Associate Department Head Maria Gini is co-chairing the conference and adjunct faculty member Jamshid Vayghan of the IBM Corporation, is serving as one of the Industry and Special Events Co-Chairs.

For more information about the conference, visit http://icec07.cs.umn.edu.

DTC to host ACM’s 2007 Recommender Systems Conference, October


CSE Professor Joe Konstan is the conference general chair and CSE Professors John Riedl and Loren Terveen are committee co-chairs. Konstan said the event will bring together experts and students in the field from around the world.

For more information about the conference, visit http://recsys.acm.org/.

CSE Colloquia

Each semester the CSE department hosts seminars and colloquia to touch on areas of interest to the department. In recent months, the department has hosted many speakers from industry and universities around the country. Noteworthy highlights include:

Ann Winblad, co-founder of Hummer Winblad Venture Partners, spoke in February on the future of software in a lecture entitled, “The Next Wave in Software: Enterprise 2.0.” Hummer Winblad Venture Partners has invested in more than 100 software companies, including Hyperion, AdForce, and Omniture.

The department also hosts the Cray Lecture Series, sponsored by Cray Research. Two lecturers spoke in recent months as part of this series.

Jennifer Rexford, from Princeton University, spoke in April about how virtualization can build flexible networks and improve Internet architecture in a talk entitled, ‘VINI: Virtual Network Infrastructure.’

Later in April, Intel Corporation’s Joel Emer discussed the challenges in finding effective uses for new transistors and potential solutions in a talk entitled, ‘Challenges in Conducting Compelling Architecture Research.’

Faculty speaking engagements

CSE Professor Jaideep Srivastava gave a plenary talk at the IEEE Symposium on Computational Intelligence and Data Mining, April 1-5 in Honolulu, Hawaii.

CSE Professor Mohamed Mokbel participated in two back-to-back conferences in early May in Mannheim, Germany. On May 8, Mokbel attended the International Workshop on Privacy-Aware Mobile Location-based Services (PALMS 2007), which he co-organized and co-chaired. On May 9, he delivered two seminars at the 8th International Conference on Mobile Data Management (MDM’07).

CSE Professor John Collins is chairing the 2007 Workshop on Trading Agent Design and Analysis in July in Vancouver, British Columbia. The workshop will be held in conjunction with the annual conference of the Association for the Advancement of Artificial Intelligence (AAAI).

CSE’ Sixth Biennial Open House

Friday, October 5, 2007

Location:
The Electrical Engineering/Computer Science Building
200 Union St. S.E., Minneapolis, M.N.

Please join the Department of Computer Science and Engineering, industry, academia, alumni, and students in celebrating nearly four decades of excellence.

We have planned an exciting program this year, which includes research exhibits from our faculty and industrial partners, a Distinguished Alumni Award luncheon, panel discussions, a keynote address, and a reception.

We hope to see you there.

For more information, visit http://www.cs.umn.edu/.
The CSE department is proud to announce that the National Science Foundation (NSF) has awarded CSE Assistant Professors Abhishek Chandra and Stergios Roumeliotis the CAREER Award. This award is the most prestigious honor given to new faculty, recognizing those likely to serve as academic leaders later in their careers. These two new awards mark the 14th CAREER awards won by CSE junior faculty over the past 11 years.

CSE Assistant Professor Tian He and Electrical Engineering student Qingquan Zhang won the Best Paper Award at the International Conference on Mobile Ad Hoc and Sensor Networks (MSN 2006) for their paper, “Gradient-Driven Target Acquisition in Wireless Mobile Sensor Network.”

The Institute of Technology Student Board (ITSB) named CSE Assistant Professor Nick Hopper winner of the 2007 Best Professor Award for the CSE department. The ITSB selects a recipient for this award from every IT department each spring. Selection is based on a student poll.

CSE Professor Wei-Chung Hsu received the collegiate Charles E. Bowers Faculty Teaching Award for 2006-2007. The award honors Institute of Technology professors who have demonstrated an outstanding commitment to teaching.

The American Association for the Advancement of Science (AAAS) has awarded the distinction of AAAS Fellow to CSE Department Head and William Norris Professor Vipin Kumar for his superior work in data mining and high performance computing.

CSE Professor Nikolaos Papanikolopoulos has been awarded the distinction of IEEE Fellow. IEEE honored Papanikolopoulos with the title of fellow for his contributions to robotics and the creation of the Scout robot. He is the sixth CSE faculty member to receive this honor. Papanikolopoulos has also been named one of the 2007 Distinguished McKnight University Professorship recipients for his work in, ‘Robotics and Vision-Based Algorithms – Breaking New Frontiers.’ The University of Minnesota Graduate School selects Distinguished McKnight Professorship recipients as a way to highlight and reward the most notable faculty members at the mid-career level.

CSE Professors Yousef Saad and Zhi-Li Zhang were both awarded endowed chairs on Jan. 1, 2007. Saad is now a William Norris Land Grant Chair in Large-Scale Computing, along with CSE Department Head, Vipin Kumar. Zhang is a Qwest Land Grant Chair in Telecommunications.

The University of Minnesota awarded CSE Assistant Professor William Schuler a McKnight Land-Grant Professorship for 2007-2009. The professorship is reserved for select junior faculty members who have the potential to make significant contributions to their fields.

The IEEE Computer Society awarded CSE Professor Shashi Shekhar, a Distinguished McKnight University Professor, with a Technical Achievement Award for his innovative work on spatial storage methods for road maps. Shekhar has also been selected to serve on the National Academies’ Mapping Science Committee from 2007-2010. This committee provides oversight for the National Research Council’s studies, which gives direction to government agencies on geospatial science, technology, and policy issues.

CSE ranks high for citation impacts of published research papers

*Science Watch*, a subscription newsletter that tracks research trends and performance, ranked the University of Minnesota’s CSE department ninth in the nation for the citation impact of published research papers among the top 100 federally funded universities. The department’s papers were measured between 2001 and 2005. The source for the ranking is Thomson Scientific University Science Indicators, the company that publishes *Science Watch*. Rankings were published in the January/February 2007 issue.
The University’s Graduate School Fellowship Office awarded CSE doctoral student Anasatsios Mourikis with a 2007-2008 Doctoral Dissertation Fellowship (DDF). The University office selects award winners from a pool of candidates. The fellowship enables promising Ph.D. candidates to devote all of their time to working on their dissertation.

Mourikis studies robotics and computer vision. His dissertation addresses the problem of robot navigation, focusing on optimizing the navigation accuracy of autonomous vehicles. His research has applications in spacecraft landing systems, search and rescue robots, car navigation in urban environments, and service robots.

The National Science Foundation (NSF) awarded CSE and Neuroscience doctoral student James Faghmous an NSF Graduate Research Fellowship to fund the next three years of his graduate study, which focuses on Alzheimer’s disease.

Faghmous said he’s passionate about researching the disease for two important reasons: his grandmother died as a result of the disease and he’s concerned that it’s becoming a global dilemma due to increased life expectancy in Third World countries. “It robs society of productive individuals,” he said of the incurable disease.

Faghmous said his interdisciplinary work, known as computational neuroscience, applies computer science techniques to improve the understanding of neuroscience.

Faghmous said his goal is to slow the disease and focus on ways to differentiate between age-related and Alzheimer’s-related dementia.

CSE doctoral student Kelly Cannon has been selected to receive Google’s prestigious Anita Borg Scholarship, which supports women in computing, technology, and leadership. Cannon is active in the robotics research area and is the driving force behind the department’s Kids Tech Camp held each summer.

This award will provide $10,000 for Cannon’s work. As part of the award, Google covered the costs for her to attend a Google networking event in California in late March and will fund her trip to Google’s Grace Hopper Conference for women in computing scheduled for October.

According to a Google news release, for the 2006-2007 awards there were more than 250 applications from students representing 115 different universities across the United States. Of this group only 20 received a $10,000 scholarship. Students were judged by their academic work, recommendations, essays, and interviews with an awards committee.

Cannon said the money will be used to pay tuition. She said because of this award, she’ll be able to focus more time on her research. Cannon’s robotics research focuses on ways to use robotics to attract underrepresented groups such as women, black, and Hispanic students to computer science.

This scholarship is named in honor of the late Dr. Anita Borg. According to Google’s Web page, Dr. Borg dedicated her life to encouraging women and minorities to enter computing and technology fields. Cannon is the second CSE graduate student to receive this award. Doctoral student Shana Watters received the award in 2006.

CSE student Matthew Beckman’s team took second place in the Undergraduate IT Business Case Competition in November, hosted by Travelers at its headquarters in St. Paul, Minn. As part of the competition Beckman and his teammates competed with four other schools to solve technology and management related problems.

Beckman’s University teammates included undergraduate students Michael Navarro, Tony Morimoto, and Parker Schultz.

Betsy George, a CSE doctoral student, is working to improve travel search engines like MapQuest. She said these programs are problematic, because they don’t account for travel routes that can vary in commute time depending on the time of day.

George is working on this project as part of her doctoral thesis with CSE Professor Shashi Shekhar. Her goal is to study the best start time for commuters using graphs that account for time or “temporal” changes. To do this, George proposed the Time-Aggregated Graph Model. This model considers travel time variations.

Her work in this area recently earned a best paper recognition and George has been invited to submit an expansion of her paper, “Time-Aggregated Graphs for Modeling Spatio-Temporal Networks” for publication in the Journal on Semantics and Data.
In the lush tropical forest of Tanzania’s Gombe National Park, famed chimpanzee expert Dr. Jane Goodall and her research team spent decades documenting chimpanzee behavior and habitat. Researchers there are still following chimpanzees daily, recording their travel, food choice, interactions with other chimpanzees, and geographical data.

Far from the forest, the products of this work — 46 years worth of paper-based maps, hand written checksheets, notes, video, and satellite images — have found a home at the Jane Goodall Institute’s Center for Primate Studies (JGI-CPS), on the University of Minnesota’s St. Paul campus.

While Goodall’s research in Gombe and her outreach efforts have given the world a better understanding and appreciation for chimpanzees, University ecologists and computer scientists teamed up to find new ways to use the data. They are analyzing the data for patterns in everything from female grouping habits to male aggression and mating habits relating to the Simian Immune Deficiency Virus (SIV). They are also constantly seeking new research techniques and areas of study.

CSE Professors Shashi Shekhar and Jaideep Srivastava have worked with their students for nearly five years on two of the University center’s projects. CSE Professor John Carlis and his students also helped set up a database of the behavioral data for the center in the late 1990s. Dr. Anne Pusey, director of the University primate center, said interdisciplinary collaborations with CSE have been very helpful in understanding the chimpanzee data.

For one of the current projects CSE graduate student Mete Celik created a searchable database prototype that would organize more than 600 hours of chimpanzee video footage from the Jane Goodall Institute’s (JGI) Videographer Bill Wallauer. The video database is housed in the University’s Digital Technology Center (DTC).

Celik explained how the technology works in a presentation to Goodall when she visited the University center in March. “It’s kind of a Google-like search engine,” he said. A chimpanzee’s name and behavior can be entered to retrieve the corresponding video clips. Eventually the researchers would like to make the database into a searchable library that allows users to add their own perceptions of the research material.

“Years and years and years of data is being computerized, so that questions that I used to ask which entailed going back through file after file after file by hand, can now be found very quickly by pressing buttons. It’s quite extraordinary,” Goodall said in a campus press conference. “It
makes me very jealous, because I could have done so much. We didn’t have some of these technologies back then.”

The other CSE related project focuses on analyzing the data. For this project, behavioral ecology doctoral student Carson Murray used Shekhar and Srivastava’s expertise in temporal, spatial, and spatio-temporal data mining to study patterns and commonalities in female chimpanzee relationships and location behavior. CSE graduate student Sandeep Mane also worked on this project.

Srivastava said they discovered patterns in female chimpanzee association and location behavior that revealed the importance of dominance. In her presentation to Goodall, Murray said she found that a high dominance rank equals an increased loyalty to core areas in the wild. Core areas are specific territories occupied by a chimpanzee. “[CSE researchers] helped me to come up with a way to look at these point patterns,” she said, adding that she’s now looking at male core areas. “They are very much driven by food. It looks like they inherit their mother’s core area,” Murray said.

Shekhar said his CSE collaboration with the University primate center started in 2002 when Pusey approached the DTC seeking collaborators for the project. Andrew Odlyzko, director of the DTC, helped facilitate the research partnership, funded by the DTC and later the National Science Foundation (NSF). Srivastava said these projects appealed to them because they had tremendous opportunity for data analysis. “Data mining is suited for exploration,” he added.

Shekhar and Srivastava said they have been amazed at the information gleaned from the data so far. “To me personally, it’s fascinating,” Srivastava said. “I learned how similar chimpanzee behavior is to human behavior.” Pusey said this is a common realization. “Because chimps are our closest relatives, we’re always thinking about their similarities and differences,” she said.

Pusey, who studied in Gombe with Goodall in the 1970s, said computer scientists have proved helpful in both organizing the data and analyzing it. “Computer Science can bring interesting new ways of understanding factors that control group composition and size and even disease transmission,” Pusey said.

While work is still ongoing for these two projects, new areas of study are being discussed. “We’re interested in the different types of social bonds you see in the [chimpanzee] community,” Pusey said.

JGI funds the long-term field work at Gombe. The University center work is funded by NSF, the National Institutes of Health (NIH), and a private grant from Milton Harris. Pusey said she is continuously working on fund raising and hopes that JGI will partner with the center on future fund-raising initiatives.

On her visit to campus, Goodall touted the value in the University center’s work and expressed hope for future study of the data. “It means that years and years and years of blood and toil, crawling through the forest, being scratched by thorns, having your hair caught, is put down on these bits of paper and is now amazingly being amalgamated and will be useful to students all over the world,” she said.

For more information, visit www.discoverchimpanzees.org.

Infant chimpanzee Taurus at Gombe National Park. © JGI -Bill Wallauer.
A FIRST-HAND LOOK: CSE’S VIRTUAL REALITY WORLD

By Robyn White

E
gerience CSE Associate Professor Victoria Interrante’s research firsthand is like being in a dream—or maybe a nightmare, if you’re afraid of heights.

To demonstrate her group’s work in computer visualization and virtual reality (VR), Interrante met me in the University of Minnesota’s state-of-the-art Digital Design Consortium (DDC) Laboratory, nestled in University’s Digital Technology Center. The CSE and Architecture departments share the lab, which sports countless tracks of infrared LED lights on the ceiling, 12 wall-mounted cameras, and a 30-foot-wide screen drywalled into the west end of the room.

To start the demonstration, Interrante handed me a pair of boxy goggles. Through the lenses I saw an exact replica of the lab in which I stood. She then asked me to walk to the opposite wall and back. Upon starting the return trip, I saw that the floor had disappeared leaving a gaping hole three floors down. Only a tiny bridge across the room remained. Interrante urged me to cross, but I froze. After seconds of fear, I reminded myself that the hole wasn’t real and I nervously shuffled across.

Interrante explained that CSE master’s student Jason Lindquist created the demonstration to induce vertigo, which she plans to study as an indicator of the extent to which people feel immersed in a virtual environment. She said this is just one of the many important uses for VR. “We’re trying to figure out how to maximize the benefits of this technology,” Interrante said.

Currently Interrante and her students are conducting experiments on ways to make VR technology more usable. But a major focus of the lab is using VR to improve the architectural design process.

Architecture Professor Lee Anderson works in the lab with both architecture and CSE students as part of the Immersive Design Research Program. He said architecture students focus on designing and CSE students focus on computer programming.

Using a computer program called Google SketchUp, architecture students are able to bring their drawings to life and get a sense of how a building’s design could feel if it were real. “You can walk around in the model as you’re making it,” Anderson said of the design experience.

For CSE specific research, Interrante said she conducts experiments on spatial understanding in 3-D virtual environments. “Visual perceptions exist as a way to help us act in our environment,” she said, adding that some believe perception is influenced by the anticipated effort associated with the action. For example, someone older or out of shape may perceive a hill to be steeper than it is.

Interrante believes the extent of someone’s subjective ‘presence’ in a virtual environment may affect their interpretation of spatial relationships in that environment. Through advancements in VR technology, she said she wants to make it easier for people to suspend disbelief or interpret what they’re seeing in the virtual world in the same way as they would if it were real. If people can do that, then Interrante said the learning that occurs in the virtual world will be easier for people to transfer more accurately to the real world.

Interrante said there are many other uses for training in a virtual environment. For example, the military uses VR to train soldiers and medical schools use it to train students. “Because the technology is so advanced it opens up all these possibilities,” Interrante said.

The DDC lab was set up in 2002-2003 as a joint project through CSE and the Department of Architecture. Interrante said the lab would not have been possible without a generous gift from Linda and Ted Johnson, an Architecture and CSE alumnus. She said several grants from the National Science Foundation were also essential in funding research.

The initial goal was to create a facility where VR technology could be used to facilitate the process of conceptual design in architecture. “We were trying to develop technology that could help people work more effectively with their design ideas,” she said.

The lab equipment is impressive and expensive—estimated to cost more than $400,000. The most striking element is the massive screen, which Interrante said they wanted people to interpret as a window into another space. In addition to the gargantuan screen, LED lights, and VR goggles, the lab is also equipped with access to other unique tools, such as a hat covered in cameras that tracks the position and orientation of a person’s head. “In order to really be contributing to the state of the art we have to have the best technology,” she said. After all, “We’re trying to expand the frontiers of existing knowledge.”
GRAD PHOTOS

CSE MASTERS AND DOCTORAL GRADUATES

Starting at the top: (Left to right)
Chris Olson, Jin Soung Yoo,
Mark Shaneck, Sangho Kim,
Kelsey Bruso, Girish Moodalbail,
Seth Berrier, Arvind Raghuveer,
Amit Bose, Rahul Trivedi, Jagan
Jayaraj, Anand Janakiraman,
Kalyan Beemanapalli, Vijay
Gandhi, Jaiping Zheng, Mete
Celik, Mai Al-Khatib, Rooma
Rathore, Nupur Bhatnagar,
Novaira Masood.

* Not all 2007 graduates are pictured. A detailed list of 2007 graduates will appear in the next issue of Soundbyte.

Top row: (Left to right)
Alexander Cooley, Mehd Benyebka,
Mikko John Niemioja, Craig Gjerdignen,
Clifton Peters II, Scott Emberly, Perry
McGahan, Jr., Mark Benson, Andrew
Johnson.

Third row: (Left to right)
Jacob Hackl, Roger Grantham, Joe
Hansen, Andrew Jonsson, Kevin Arnold,
Eric Freed, Justin Coyne, Tim Anderson.

Second row: (Left to right)
Joel Levandoski, Kyle Abraham, Subodh
Loknath, Thomas Tian, Jeremy Bitzan,
John Harley, Josh Richard, Reed McEwan.

Front row: (Left to right)
Jenny Dalton, Huroye Scott, Barbara
Swan, Carrie Frederer, Daniel Tian, Ines
Poernomo, Sue Van Riper, Paul Nase,
Mats Heimdahl.

Not pictured: Henri Mitambo, Scott
Nguyen, Rommelito Nuque, John Reily.

Top row:

Third row:

Second row:

Front row:
Cassano said the CSE department made it already had the entrepreneurial spirit, design, while attending school. While he specializes in software programming and he said he ran the business, which pursuing his degree in the CSE department. “My beginnings were in robotics,” he said.

But while working under the guidance of his adviser, William Norris Professor and CSE Department Head, Vipin Kumar, he said his area of focus changed. “Vipin did an absolutely outstanding job motivating us,” he said. “He was the inspiration for all of us with his energy and drive.”

Grama, now a professor of computer science and University Scholar at Purdue University, described the underlying theme of his work as the development of novel algorithms and use of advanced computing platforms to solve complex problems in science and engineering.

Grama’s work on two large federal projects showcases his broad abilities. In one project he works on system biology, using high performance computing to model the interactions of proteins and genes in networks. Grama said he is researching how these networks differ in humans, mice, and plants. “We were among the very first groups to look at how to analyze these networks,” he said.

In his other major project called, ‘Real-time Control of Large Civil Infrastructures,’ he works to model stress and corrosion in building structures. Grama is enthusiastic about the potential impact of his work. “...our work has the potential to make a fundamental impact on diverse domains, ranging from computational biology to structural engineering,” he said.

According to his peers, like Purdue University Professor Ahmed Sameh, Grama has become highly successful in his field. “He’s widely accepted at the national and international level as an expert in parallel computing as well as computational biology,” Sameh said.

As evidence of this, since leaving the CSE Department Head, Vipin Kumar, he said he first met Grama when he was a grad student. “I detected immediately that this fellow was going to have a really bright future,” he said.

Sameh said since coming to Purdue he and Grama have had numerous opportunities to work together. “We’ve had several joint grants with NSF and DARPA and even grants with industry,” he said.

Sameh said he finds satisfaction in Grama’s accomplishments. “It was gratifying to see an alumnus of CS at Minnesota do extremely well at Purdue and the national and international level.”

Although CSE alumnus Mike Cassano (B.S. 2005) only left the CSE department two years ago, he has accomplished a lot in his brief career.

His triumphs include founding two companies and finishing his Masters in Business Administration from the University’s Carlson School of Management. Cassano founded his company, IDC WebDev, with a high school friend while pursuing his degree in the CSE department. He said he ran the business, which specializes in software programming and design, while attending school. While he already had the entrepreneurial spirit, Cassano said the CSE department made it possible for him to do more for his clients – including design, database work, and client management.

“On my second year, as a sophomore, I joined John Riedl’s lab, GroupLens,” he said. “That’s where I learned the most in the program.” GroupLens is a research group focused on projects relating to human-computer interaction, like MovieLens, a movie recommender service. Cassano said this hands-on experience in GroupLens is exactly what he needed to succeed. “It really gives you a chance to see what it’s like in real world applications,” he said. He credits Riedl and CSE Professor John Carlis for guiding him in his undergraduate work.

Since earning his undergraduate degree, Cassano dove into an MBA program and started a new enterprise. Seth Werner, a lecturer in the marketing department of the Carlson School of Management, said he met Cassano when he was interviewing for teaching assistants. Soon after hiring him, Werner and Cassano began to share business ideas and a bond formed.

In 2006 the duo formed a company called, ‘name out loud.’ Cassano said it’s a software program in which individuals can speak their name into a Web browser, so others can listen to it and pronounce it correctly. “Corporations can integrate this feature in their online directory,” he said. Werner said he and Cassano are a good match for this business, because they have a good balance of the necessary skills, expertise, and resources.

“He’s not just a fanciful programmer that is void of the business side,” Werner said of Cassano. “He’s done a fantastic job of getting the product completed and working.”
Get involved! Mentor a student through the IT Mentor Program

CSE alumni are invited to participate in the U of M’s Institute of Technology Mentor Program, in which students are matched with professionals working in science, math, and engineering fields. Participating alumni have the chance to introduce students to their business, exchange ideas, and help a promising student succeed. Mentors gain personal satisfaction and they also help their company with recruitment and community service efforts.

Registration opens online in September at www.it.umn.edu/mentor. The deadline to register is Sept. 30. For more information, contact Sara Beyer at (612) 626-8282 or sbeyer@umn.edu.

Alumni Achievements

Arvind (M.S. 1972, Ph.D. 1973), founder of Bluespec, Inc., was awarded the distinction of ACM fellow. Arvind is a Professor of computer science at MIT and a former CSE Distinguished Alumni Award recipient.

Luke Franci (B.S. 2001) co-organized a new tech conference called Minnebar, where the attendees set the agenda for the programming. The St. Paul event took place in April and was mentioned in the Pioneer Press newspaper.

Bonnie Labosky (M.S.), formerly of Medtronic and Welch Allyn, was chosen to serve on the Board of Directors for Biophan Technologies. Labosky is CEO of the Twin Cities company, Cardiac Concepts, Inc.

Luis Malave (B.A. 1984) was named the new Chief Information Officer at the Insulet Corporation.

Mark Moran (B.S. 1984) was promoted to Chief Engineer at Ciprico.

Kenneth Ng (B.S. 1973, M.S. 1975) was promoted to Senior Vice President of Technologies at GuardianEdge Technologies.

Hui Xiong (Ph.D. 2005), now an Assistant Professor in the Management Science & Information Systems Department at Rutgers University, received the school’s annual Junior Faculty Teaching Excellence Award.

MS in Software Engineering (MSSE)

Gain a solid background in software engineering process, architecture, and design. Prepare for technical leadership, project management, and technical issues in a business context.

- Master of Science program for working professionals.
- Courses one full day a week for two years.

Now accepting applications for Fall 2008. For more information, visit: www.msse.umn.edu

Alumni Spotlight:

CSE alumnus Dr. Panos Pardalos (Ph.D. 1985) said that when he began studying optimization he never expected it to have so many applications. But after working in optimization for more than 20 years, he describes it as, “A tool that appears in many sciences.”

Pardalos, now a Distinguished Professor of Industrial and Systems Engineering at the University of Florida, said optimization can be used for everything from finding the shortest distance between two points to figuring out the best way molecules can join together. “Now we apply optimization to many things – to medicine, to telecommunications, to transportation, to drug design,” Pardalos said.

Because of his experience with a wide range of applications, Pardalos said he urges current students in computer science to explore other disciplines in addition to computer science specialties. “The disciplines are merging together,” he said.

At the University of Florida, Pardalos is an affiliated faculty member of the Computer Science Department, the Hellenic Studies Center, and the Biomedical Engineering Program. He also carries the title of Co-Director of the Center for Applied Optimization.

Since obtaining his degree from the University of Minnesota, Pardalos has held visiting appointments at numerous prestigious universities and research institutions, including Princeton University and AT&T Labs Research, to name a few. Pardalos has also authored eight books, served on the editorial boards of many scholarly journals, organized international conferences, and amassed an endless list of awards and honors. His honors include an honorary doctoral degree from Lobachevski University in Russia, the designation of an AAAS and INFORMS Fellow, and the Greek National Award and Gold Medal for Operations Research in 2001.

Michael Saunders, a research professor at Stanford University and a colleague of Pardalos, describes him as extremely energetic in his professional work.

“He’s incredibly hard working. He’s editor of numerous journals in quite a range of areas,” Saunders said. “He organizes eight conferences every year, which is astounding.” He also went on to say that Pardalos is always eager to tackle hard questions in the field.

Although Pardalos left the University of Minnesota long ago, he said he tries to make it back every two years for speaking engagements. But beyond professional and scholarly ties, Pardalos said the University campus also holds a personal sentiment.

“I met my wife here,” he said on a visit to campus in the fall of 2006. Pardalos said he met his wife, Rosemary, at the University’s Coffman Memorial Union. In addition to finding his match in Rosemary at the U of M, Pardalos said he also found a supportive adviser, former CSE Department Head Ben Rosen and a great community of international students. “I enjoyed it very much,” he said.

Spotlight:

Get involved! Mentor a student through the IT Mentor Program

CSE alumni are invited to participate in the U of M’s Institute of Technology Mentor Program, in which students are matched with professionals working in science, math, and engineering fields.

Participating alumni have the chance to introduce students to their business, exchange ideas, and help a promising student succeed. Mentors gain personal satisfaction and they also help their company with recruitment and community service efforts.

Registration opens online in September at www.it.umn.edu/mentor. The deadline to register is Sept. 30. For more information, contact Sara Beyer at (612) 626-8282 or sbeyer@umn.edu.

Alumni

Achievements

Arvind (M.S. 1972, Ph.D. 1973), founder of Bluespec, Inc., was awarded the distinction of ACM fellow. Arvind is a Professor of computer science at MIT and a former CSE Distinguished Alumni Award recipient.

Luke Franci (B.S. 2001) co-organized a new tech conference called Minnebar, where the attendees set the agenda for the programming. The St. Paul event took place in April and was mentioned in the Pioneer Press newspaper.

Bonnie Labosky (M.S.), formerly of Medtronic and Welch Allyn, was chosen to serve on the Board of Directors for Biophan Technologies. Labosky is CEO of the Twin Cities company, Cardiac Concepts, Inc.

Luis Malave (B.A. 1984) was named the new Chief Information Officer at the Insulet Corporation.

Mark Moran (B.S. 1984) was promoted to Chief Engineer at Ciprico.

Kenneth Ng (B.S. 1973, M.S. 1975) was promoted to Senior Vice President of Technologies at GuardianEdge Technologies.

Hui Xiong (Ph.D. 2005), now an Assistant Professor in the Management Science & Information Systems Department at Rutgers University, received the school’s annual Junior Faculty Teaching Excellence Award.

MS in Software Engineering (MSSE)

Gain a solid background in software engineering process, architecture, and design. Prepare for technical leadership, project management, and technical issues in a business context.

- Master of Science program for working professionals.
- Courses one full day a week for two years.

Now accepting applications for Fall 2008. For more information, visit: www.msse.umn.edu
CSE faculty testing HIV prevention software

Konstan said the study posed many challenges as a researcher, including concerns about the sensitive subject matter, how to protect the data collected, and how to gain volunteer confidence. The survey results showed that most of the men were not sexual risk takers; however, the ones who were took more risks when meeting men online rather than off.

Following this first study, Konstan and Rosser embarked on a second study of more than 3,000 men throughout the U.S. He said the group was segmented by race and they found that black and Latino men were at a higher risk, because of a few high risk-takers in their group.

In June, Konstan and Rosser began testing new intervention software to study online risk-taking prevention. The intervention software aims to change the user’s attitude and behavior. Konstan said he hopes the program creates a genuine online experience that promotes healthier sexual behavior and encourages people to take fewer risks in sexual encounters outside of cyberspace.

Andy Birkey, the Health Education Coordinator at the Minnesota AIDS Project in Downtown Minneapolis, said Internet outreach is a big part of his job in helping to prevent HIV. He said having an additional computer-based resource like the one being developed through the University MINTS project would be a huge help.

“A big part of what we do is to refer people to other resources online,” said Birkey. “Having a larger place to send people that’s comprehensive is a really good thing.” Birkey, who briefly worked on the U of M MINTS project in 2006, said this prevention work is crucial not only because of the number of people meeting online, but also because a lot of the people he’s reaching don’t have adequate access to sexual health information or health care in general.

To that end, in addition to hopes for HIV prevention Rosser and Konstan also hope the prevention model can be used for other public health purposes. “The importance of the MINTS Internet study is not just addressing HIV,” Rosser said, adding that the online prevention model could be adapted for things like cancer prevention as well.

While the long term results of this research are unknown, Rosser said these studies have succeeded in making the University of Minnesota professors experts in this field. “At the moment we’re the number one University for Internet HIV prevention,” he said. But this work has produced more than a cutting-edge reputation.

Starting in the fall of 2007, Konstan and Rosser will teach an e-public health course focused on the concepts and methodologies of developing online public health interventions. Rosser said the course will draw in students from CSE, public health, the Medical School, and the Rhetoric department.

In describing ‘e-public health,’ Rosser said, “[It] uses the Internet to promote health and prevent disease.” He said this multidisciplinary teaching model, which involves e-learning, is essential in today’s society and that it will change the future of education. “You’re talking about rethinking and reframing science in some ways that become very exciting,” he said.

Rosser said the impact of computer science on this type of work is increasingly important. He went on to say that Konstan is poised to be a key player in the future of this multidisciplinary, electronic education age because he gets the “big picture.” “Joe represents the next generation of computer scientists,” he said. “I wish we could have three more Joe Konstans at the University right now.”

"If we don’t do [HIV prevention outreach] right or in a way that’s most responsive, we’re going to have new HIV epidemics. There’s enormous urgency in addressing HIV prevention gaps.”

— B.R. Simon Rosser
Many thanks to our supporters

We would like to express our sincere gratitude to the following companies, alumni, and friends of the CSE department who have provided generous financial support for our work. We look forward to continuing this partnership.

* Indicates four or more years of giving.

Corporate donors
Ameriprise Financial  
Cadence Design Systems Inc  
Cisco Systems Inc  
E I Du Pont De Nemours & Co *  
Emerson Electric Fdn  
Ernst & Young Fdn *  
Goodrich Fdn *  
Hewlett-Packard Co *  
IBM International Fdn *  
International Institute for Software Process  
Lockheed Martin Corp *  
The Medtronic Fdn *  
Microsoft Corp *  
Narus Inc  
Ned Levine & Associates  
Quality Software Technologies Inc *  
Rockwell Collins *  
Scientific Forming Technologies Corp  
Sprint Nextel  
TCF Fdn  
Thomson West  
Wells Fargo Fdn *

Individual donors
Christopher J Adrian  
John B Ahlquist Jr *  
Keumog L Ahn *  
Nataraj Akkiraju  
Jeffrey L Allen  
Timothy J Ampe *  
Andrew A Anda  
Michael J Ascher *  
Thomas K Austin +  
Izees Al Barghouthi  
Sean K Barry  
David Bianchi *  
Jeanne M Blaskowski *  
Timothy J Boerner  
Erik W Brom +  
Loretta J Broughton  
Stephanie A Calcagno  
Allan M Carter *  
Haizhou Chen  
David M Ciriminski  
Howard B Coleman *  
Robert W Cooley +  
Rinto Dasuki  
Timothy P Davey *  
David W De Herder Jr +  
Jeffrey A Dean  
Arun R Desai *  
Lori Dietrich & Steven Piazza +  
Timothy & Linda Doyle  
Prasanth V Duvar +  
Abderrahman A El Haddi  
Daniel L Ellingson  
Lori J Elishworth *  
Richard S Farrell +  
Kimberly D Fields-Noyd  
Benson R Flores *  
Gregory A Ford *  
Daniel J Franklin *  
Michael R George *  
Anatoly Glogolev  
Mark D Glewwe *  
Joseph E Gliniecki +  
Philip L Graetz *  
James G Grindeland +  
Anshul Gupta  
Scott J Gute  
Vicki L Halverson *  
Jun Han  
Gregory W Hanka *  
Richard J & Nancy S Hedger +  
George F Heyne *  
Patrick A Hillmeyer  
David L Hintz *  
Robert H Hu *  
Pujiang Huang  
Kurt Indermauer & Jennifer Timmers *  
Irene B Jacobson  
John C Jelatis  
Tao Jiang +  
Gary O Johnson *  
Sandra L Johnson  
John J Jones *  
Mahesh Joshi  
William M Kanyusik *  
Zachary A Keller  
John W Kerr *  
Liv A Knatterud  
Dan C Knutson  
Marlys A Kohnke +  
Lyle M Kraft *  
David P LaMotte *  
Jeffrey C Lane *  
Samuel E Lanto  
Rebecca A Svatok Latterell  
Yuan Li  
Lishin Lin  
Markus A Litscher *  
Lee-Chin H Liu *  
Kathleen A Mallery *  
Matthew G Massey *  
John R Matheny  
Blaine W Mc Keever *  
Zenaida D McCoy *  
Larry L Meyer  
John C Miller  
Anthony M Mueller *  
Jody B Mueller *  
Srihari Nelakuditi  
Patrick J Nickel  
David R Odalen *  
Robert Ogren & Carrie Mikulich Ogren *  
Christopher R Olson *  
Patrick O’Toole *  
Craig F Palmer  
Pradip K Patilath  
Paul N Pazandak *  
Leon P Plantz *  
Jeffrey A Prentice *  
Cheryl Protas  
James H Rice *  
Richard J Roiger *  
Frederick W Roos *  
Daniel N Root  
Bruce D Rovner *  
Jeffrey M Ryan  
Timothy J Salo *  
Timothy D Samsel *  
Badrul M Sarwar +  
Wayne O Schaffran  
Dale A Schnarr *  
John P Schorer +  
Richard J Seebach *  
William E Severson  
John J Shackleton  
David F Shattuck *  
Yun Shen  
Richard E Smith +  
Warren R & Geralyn S Smith *  
Marc G Smith *  
Gayle P Solheim *  
Daryl L Spartz *  
Charles D Steigerwald +  
John P Strait *  
Gregory P Strobl  
Edward L Stuart +  
Elizabeth R Stuck  
Steve M Stupca +  
Robert P Sturm  
Robert R & Susan M Swenson +  
Carol B Thompson  
Neal Vaught +  
Robert D Vavra +  
Lance A Visser +  
John L Vogt  
Dean J Vukas  
David R Weathers +  
Suzanne C Webb +  
Douglas J Weber *  
Jeffrey P Wehrman  
Richard & Janet Wendt  
Weldon L Whipple +  
Patrick D Wirz  
Mark A Wolcenski *  
Rita Y Wu +  
Kesheng Wu +  
Li Xu  
Wenjie Zhu *  

Supporting Innovation
Anastacia Quinn Davis
Development and External Relations Officer for the Department of Computer Science and Engineering

The World’s Greatest Questions

Questions are at the very core of the mission of a public research university. Providing a forum for discussion and research of important questions is a unique and tremendously important service the University of Minnesota provides to the state, the nation, and the world.

The Computer Science and Engineering (CSE) department is an essential part of the amazing research and teaching happening at the University. Research conducted within the department spans a diverse range of topics, such as designing a new generation of computer architecture, assisting in the medical research of diseases, and homeland security. Research happening in the CSE department impacts the world. By supporting the department, we all have the opportunity to be a part of something big.

Now more than ever, private support of educational research and teaching within the CSE department will be the key to launching the department to the next level of excellence. Support at all levels makes a difference and there are many creative ways to make a gift. For example, the University is currently matching awards from all newly created endowed scholarships and fellowships of $25,000 or more, thus doubling the impact of the gift. Also, recent federal legislation allows anyone age 70½ or older to make a gift to a charitable organization from their Individual Retirement Account (IRA) without incurring income tax.

There will always be crucial questions to address. By supporting the CSE department, you can be part of ensuring that through innovative research and scientific development there will always be a place to answer the greatest questions of our world. Maybe yours will be next!

For questions about making a gift to the Department of Computer Science and Engineering, please contact Anastacia Quinn Davis at (612) 625-4509 or quinn@it.umn.edu.
Yes! I want to support Computer Science and Engineering at the University of Minnesota!

Amount (please circle):

$25  $50  $100  $200  $500  $1,000  Other: _________

Please choose a payment method:

Credit Card:

Type:  VISA  MasterCard  American Express  Discover

Number: ____________________________

Expiration Date: _____/____

Signature: _________________________

Check: Please make checks payable to: University of Minnesota Foundation

Name: __________________________________________________________________________

Address: _________________________________________________________________________

City: ____________________ State: ________ ZIP: _________________________________

Phone: _____________________ E-mail: ____________________________________________

Please return to:
University of Minnesota Foundation
500 Mc Namara Alumni Center
200 Oak Street S.E.
Minneapolis, M.N.  55455

Fund # 1596

Soundbyte is produced twice yearly by the University of Minnesota's Department of Computer Science and Engineering. All photos and content are produced and edited by Robyn White, unless otherwise noted.

Please direct all questions or comments to:
Soundbyte Editor
Computer Science & Engineering Department
200 Union St. S.E., 4-192 EE/CS
Minneapolis, M.N.  55455

Department: (612) 625-2424
Fax: (612) 625-0572
E-mail: newsletter@cs.umn.edu
http://www.cs.umn.edu/newsletter

Vipin Kumar
Department Head

Maria Gini
Associate Department Head

Jon Weissman
Director of Graduate Studies

John Carlis
Director of Undergraduate Studies

The University of Minnesota is an equal opportunity educator and employer. This publication is available in alternate formats upon request; call Robyn White at (612) 625-2424. For disability accommodations, call (612) 626-1333.

© 2007 by the Regents of the University of Minnesota. All rights reserved.