Microsoft VP Returns to Alma Mater to Inspire Students

When Terri Jordan graduated from the University of Central Arkansas with a bachelor’s degree in computer science in 1985, she never imagined that 26 years later she would be living in Seattle, Wash., working for “one of the most amazing technology companies in the world.”

Jordan, a native of Morrilton, Ark., has worked as vice president of technology, retail stores for Microsoft since 2009. Before that she spent nearly three years at eBay as vice president of technical operations, and that was after working her way to the Presidency of Wal-Mart Information Systems Division where she began as an entry-level programmer.

On Friday September 9th, Jordan returned to her alma mater to discuss her career path with UCA computer science students and faculty.

Because technology is rapidly evolving, Jordan told students, “What you’re learning in class now is a foundation for new things that you’ll be doing in the workplace in two-to-five years.” When she began studying computer science in the mid-1980s, Jordan programmed on punch cards using an early computing language called Fortran (Formula Translation).

Today, Jordan operates as the chief information officer for Microsoft’s retail stores, a new operation that was launched two years ago. There are 12 stores located along the west coast and in other major metropolitan areas such as Houston and Atlanta. Three more stores are under construction now and expected to open for the holiday shopping season and 75 stores are scheduled to open in the next three years.

In addition to her successful career, Jordan also discussed what it was like being a female in a male dominated field. She said it is disappointing that the number of females in computer science is decreasing. “We try to make sure we have diverse candidate pools, but it can be difficult,” she said. “The thing about corporations is you need diversity, both in gender and other demographics, because it will make for a better product at the end of the day.”

In conjunction with Jordan’s visit, the UCA Foundation announced the endowment of the Computer Science Scholarship Fund, which will be used to recruit a diverse group of students to the computer science program. Students will be able to apply for the Computer Science Student Scholarship in the spring. It will be awarded for the 2012-13 academic year.

Dr. Chenyi Hu, Chair of the Department of Computer Science, said, “While we are very proud of our past accomplishments, we are also facing a challenge to recruit and retain high-quality students especially female students. I am so grateful that we have the opportunity to endow this scholarship, which will help us bring more diverse students to the field.”

The scholarship was endowed with approximately $30,000 from a larger donation made a decade ago by the Conway Development Corporation in order to help UCA build a strong computer science department.

“The Conway Development Corporation is very proud of the accomplishments of UCA’s Computer Science Department,” said CEO Brad Lacy. “It is critical for us to have a strong department as the City of Conway continues growing and recruiting knowledge-based industries.”

Through the assistance of private gifts like the one from Conway Development Corporation, the Computer Science Department has thrived. In 2004, the department began offering a master’s degree program, which has produced about 30 graduates to date; the department has been accredited by the Accreditation Board for Engineering and Technology (ABET) since October 2006; and the strong faculty that have been recruited and retained have worked diligently with students to earn the department a national and international reputation for excellence.

Earlier this year, the Computer Science Department’s students’ software design team placed third nationally in the 2011 Microsoft Imagine Cup competition; 100 percent of the manuscripts coauthored by 12 students and their faculty mentors were published by the 2011 International BIOCOMP Conference (overall acceptance rate was less than 23 percent); and a paper authored by a UCA Computer Science faculty member won the best paper award at the 2011 Industrial Conference of Data Mining, an international meeting. The National Science Foundation also has selected the UCA Computer Science Department as a host site for a Research Experience for Undergraduates program from 2011-2013. This program is the first of its kind in the computer science field for the state of Arkansas.
Gary Arnold of Acxiom Corporation announces a significant gift to the University of Central Arkansas during a press conference on Wednesday. Acxiom Corporation has pledged $200,000 over the next five years to help underwrite the salary for a tenure-track faculty member in the computer science department.

"Good things are happening at UCA," Courtway said. "People believe in our mission, our students, our faculty and staff. Individuals, foundations and corporations want to invest in our people, programs and projects and I'm pleased to make an announcement to that end today. We have a strong and long-running partnership with Acxiom, and today I'm excited to tell you about how they have decided to invest in us."

The company's gift will help underwrite the hiring of a new, tenure-track faculty member in the Computer Science Department. The department will conduct a national search this fall to hire an outstanding individual to fill the Acxiom Professorship in Computer Science. The successful candidate will begin working at UCA next fall.

"Acxiom wants the best and brightest workforce to fuel and lead our initiatives around the world," said Scott Howe, Acxiom CEO and President. “UCA’s computer science program is top-notch and its graduates have been a substantial part of our success. We believe our investment in UCA will continue to pay off – not just for Acxiom, but also for world-class education – over the years to come.”

The UCA Computer Science Department has experienced tremendous growth this academic year with a 23 percent increase in enrollment over last fall. “This growth has created positive challenges in terms of meeting the classroom instructional needs of our students,” said Dr. Steve Runge, Dean of the College of Natural Sciences and Mathematics. “The Department of Computer Science envisions itself as a leader in undergraduate computer science education in this region and we are building a national reputation for excellence in education and research. To continue on this positive trajectory requires that we recruit and retain the highest-quality faculty members.”

Earlier this year, UCA’s computer science students’ software design team placed third nationally in the 2011 Microsoft Imagine Cup competition; 100 percent of the manuscripts co-authored by 12 students and their faculty mentors were published by the 2011 International Conference on Bioinformatics (overall acceptance rate was less than 23 percent); and a paper authored by Victor Sheng, a UCA Computer Science faculty member, won the best paper award at the 2011 Industrial Conference of Data Mining, a very prestigious international conference.

The National Science Foundation has also selected UCA’s Computer Science Department as a host site for a Research Experience for Undergraduates program from 2011-2013. This program is the first of its kind in the computer science field for the state of Arkansas.

Past financial contributions from Acxiom starting in 2002 have been instrumental in helping the Department of Computer Science hire and retain seven high-quality tenure-track faculty members, recruit the highest-quality students and purchase equipment that serves both our teaching and research missions and objectives. Importantly, these contributions have also supported joint activities with Acxiom such as ALAR (Acxiom Laboratory for Applied Research) conferences, programming contests and IT Academy for high school students. “When we are able to bring the finest faculty members to UCA, we are able to, in turn, recruit the most promising students. We sincerely thank Acxiom for being a strong partner and advocate for UCA and for our students,” Courtway said.

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Rachel Kirby, a Computer Science major at the University of Central Arkansas is being awarded the $500 Arkansas Academy of Computing Scholarship. Rachel is currently a sophomore, and taking Data Structures as well as Assembly Language/Computer Organization this semester. So far, Rachel has maintained her perfect 4.0 GPA. She said: "Although I have not chosen a particular field of study as of yet, I am interested in Networking and Information Security. I plan to further research into these interests, as well as others, throughout the rest of my college career." The Arkansas Academy of Computing has contributed its $500 Scholarship to UCA Computer Science Department annually since last year.

The National Center for Women and Information Technology (NCWIT) has selected the University of Central Arkansas Computer Science Department to receive the Return Path Student Seed Fund Grant to create a Women’s Computer Science Club program. Return Path donates funds to seed programs and initiatives for student organizations that promote increased women in computing and IT programs.

Remma Taneja, a Computer Science major, submitted a proposal for the NCWIT Academic Alliance Seed Fund Award and has been selected as a recipient. The objective is to create a Women’s Computer Science Club as an extension to the current Computer Science Club. The goal is to create a coherent learning environment for female CS students by building a community in which these students can interact with each other to help decrease the gender gap for Computer Science majors.

Dr. Yu Sun and Karen Thessing, members of the UCA Computer Science department, are faculty mentors for this endeavor.

Luke Irvin (BS-Computer Science; 2011) was selected by a panel of technical professionals at Apple, Inc. To attend Apple’s World Wide Developer Conference (WWDC) in San Francisco June 6-11, 2011. According to Apple this conference “is the premier event for Developer’s creating innovating applications for Apple Platforms. Many students apply but only a select few are chosen” to attend this meeting. Luke was able to afford the $1600 registration fee thanks to a student scholarship from Apple. The WWDC has been an annual event since 1983 with 5,200 people in attendance this year. The focus of this year’s conference was software with the unveiling of Lion (the next version of Mac OS X), iOS 5 (the next version of Apple’s mobile operating system for iPhones and iPads), and iCloud (Apple’s new cloud data storage service). Luke had five recommendations for others upon return from the conference. First, get a Twitter account. This was used in lieu of business cards at the conference. Second, travel light. Vendors were handing out plenty of swag; Luke had four t-shirts given to him by start-ups the night before the big event. Third, show off your app. Even if it is not quite ready for the app store yet, be ready to show what you can do because people are interested in seeing it. Fourth, come prepared to ask questions. Apple uses this event to help to train the army of developers that will make their devices useful. And finally, take time to sight see. Don’t lock yourself in the conference and forget where you are. There are always other things to see and do when you travel to far away places!
Eric Barton currently employed by FIS Global as a Sr. Systems Operations Analyst

Andrew Lorigan – currently works at Snap On as an Intern

Jason Elliott - currently works as an Intern at Acxiom and Dillard’s

Aaron Crawford – continue his graduate study in the M.S. Program in Sp’11 with graduate assistantship

Tyler Baskerville – currently employed by Acxiom as a Solutions Developer


Reshma Ginnavaram – Thesis Title – “A Research of PID-Based Bitrate Control for Video Compression”, Faculty Mentor – Dr. Yu Sun

Pranav Yerramreddy – Thesis Title – “Radio Talk Show Application using iPhone Programming”, Faculty Mentor – Dr. Mark Smith

Sait Suer – Thesis Title – “Improved Border Detection in Dermoscopy Images for Density Based Clustering”. Faculty Mentor – Sinan Kockara
CS Department hosted the 2011 Mid-Central USA Regional ACM Programming Contest on November 5, 2011. This regional contest is part of ACM International Collegiate Programming Contest (ACM-ICPC), an annual multi-tiered computer programming competition among the universities of the world. The contest is sponsored by IBM. Twelve teams from all over Arkansas participated in the contest. Two teams from UCA participated in the contest: team UCA Null Terminators had contestants Alex Loney, David Coyne and James Lemon; team UCA Bears had contestants Vignesh Rajan, Andre Patterson and Jarrod Feagin. Dr. Vamsi Paruchuri was the Site Director and Team Coach. Mr. Micheal Nooner was Assistant Site Director.
In Fall 2009, Dr. Bernard Chen proposed and taught a new course entitled “Data Mining” in the Computer Science Department. Three bioinformatics research paper published based on the semester long project. In Fall 2010, Data Mining class was offered by the computer science department again. Another Three bioinformatics research papers generated by the course have been accepted and published in the 2011 international conference on Bioinformatics and Computational Biology (BIOCOMP 2011), Las Vegas, NV, July 18-21, 2011. All three papers are accepted as Regular Research Paper, which is the highest acceptance rank in research with ~21% acceptance rate. These three papers involve four undergraduate and seven graduate students. Mr. Minwoo Kim (undergraduate student of computer science) delivered an oral presentation for the paper titled “Protein Sequence Motifs Extraction Using Decision Forest” and Mr. Muhyeddin Ercan (master student of computer science) also delivered an oral presentation for the paper titled “Constructing Super Rule Tree (SRT) for Protein Motif Clusters Using DBSCAN”. Dr. Bernard Chen gave an oral presentation for the paper titled “Clustering on Protein Sequence Motifs using SCAN and Positional Association Rule Algorithm”.

Paper information:


- Bernard Chen, Sait Suer, Muhyeddin Ercan, Rahul Tada, Recep Avcı, and Sinan Kockara, "Constructing Super Rule Tree (SRT) for Protein Motif Clusters Using DBSCAN", International Conference on Bioinformatics & Computational Biology (BIOCOMP2011), Las Vegas, USA, Proceeding pp.79~84. (Regular Research Paper (RRP) Acceptance Rate: ~21%)

- B. Chen, C. Hudson, M. Kim, A. Crawford, C. Write and D. Che, "Protein Sequence Motifs Extraction Using Decision Forest", International Conference on Bioinformatics & Computational Biology (BIOCOMP2011), Las Vegas, USA, Proceeding pp.96~102. (Regular Research Paper (RRP) Acceptance Rate: ~21%)

Dr. Sinan Kockara along with his graduate student Mr. Sait Suer from Computer Science Department has published a journal article in BMC Bioinformatics. Article entitled as “An Improved Border Detection in Dermoscopy Image for Density Based Clustering”. In this study, computer-aided diagnosis framework for automated skin lesion border detection in dermoscopy images is developed. Comparing to our previous study accuracy of delineated lesion borders is improved on 75% of 100 dermoscopy image dataset.
On October 22, sixty-six people participated in the Fourth Annual Python Arkansas (pyArkansas) Conference hosted by UCA Computer Science Department. "Python is a programming language that lets you work more quickly and integrate your systems more effectively. You can learn to use Python and see almost immediate gains in productivity and lower maintenance costs." -From the official website of Python programming language www.python.org. The Computer Science Department has offered an introduction to programming course (CSCI 1340) for any students who interested in knowing how to create game and manipulate image through computing with Python. The Department has hosted the annual Python Arkansas (pyArkansas) Conference every year since the inaugural one in 2008. Participants of this year's conference include professionals working in industries and government agencies as well as faculty members and students from other universities in Arkansas. Dr. Bernard Chen of UCA Computer Science gave a three hour tutorial at the conference. Michael Nooner and Karen Thessing of the department provided professional assistance. At the conference, Michael Hinds, a UCA student major in Mathematics presented his encryption project in Python developed in his spring 2011 CSCI 1340 class.

It has been a collaborative effort to organize such a conference. Greg Lindstrom from NovaSys Health, Chad Cooper from the Center for Advanced Spatial Technology are active organizers together with UCA Computer Science Department. In addition to UCA, the 2011 PyArkansas Conference was sponsored by NovaSys, Wingware, ActiveState, Python, and O'Reilly. Planning for the 2012 pyArkansas has already begun.

Dr. Sinan Kockara, Assistant Professor of Computer Science published an article in proceedings of The 2011 International Conference on Modeling, Simulation and Visualization Methods (MSV’11). The meeting was July 18-21 in Las Vegas. His article is entitled “CEDE: Collaborative Egocentric Design Environment for CAVE”. Dr. Kockara’s graduate student, Mr. Muhyeddin Ercan, presented the paper at meeting. In this study, how human perceives 3D environment is tested in an immersive setting. Importance of all spatial aptitude components (egocentric view, exocentric view, and perceptual constancy) for human’s space perception are illustrated in CAVE virtual reality system. An exemplary scene from paper is illustrated below.
CS4HS (Computer Science for High School) is an initiative sponsored by Google to promote Computer Science and Computational Thinking in high school and middle school curriculum.

This summer the department hosted this workshop on campus July 11 – 14, 2011. Sponsored by Google and Co-Sponsored by Acxiom. Faculty who helped with workshop’s success: Chenyi Hu - PI, Bernard Chen, Michael Nooner, Vamsi Paruchuri and Karen Thessing. We had 15 teachers complete the workshop.
Acxiom Corporation and the University of Central Arkansas are sponsoring the IT Careers Camp on Wednesday, June 23rd to Saturday, June 26th, 2010. The IT Careers Camp is designed to heighten students' interest in a career in Information Technology working with computers and related technology. The camp is designed to educate students about IT careers and to encourage them to continue their education beyond high school. Students were part of a group comprised of some of Arkansas' brightest students as they learned about interesting and rewarding careers in IT.

This year was the biggest camp yet, with 42 students attending. The camp has been hosted on campus for several years by the MIS department. This year was the first year that the Computer Science department joined the camp. This offered the students a broader (and possibly nerdier) experience in the IT world. The photos were taken on Thursday when the students came to the CS department and learned how to create Android apps using Google's App Developer program. The camp is made possible by the generosity of Acxiom Corporation.

For more information see our Facebook page: [http://www.facebook.com/groups/5256730797/](http://www.facebook.com/groups/5256730797/)
The Research Experience for Undergraduates (REU) project "HIT@UCA: Applied Research in Health Information Technology" is a National Science Foundation (NSF) funded research program hosted by the Computer Science Department at UCA. This is the first ever Computer Science REU in Arkansas selected by the Computer & Information Science & Engineering (CISE) Directory of NSF. It is one of the seven newly selected NSF-CISE RUE sites across the Nation this year together with other seven renewed sites. The primary objective of the UCA REU site is to encourage motivated undergraduate students to pursue graduate study and research careers in computer science by providing them a competitive research experience. This project integrates fundamental research of computer science with applications in health information technology (HIT), aimed at improving the overall quality, safety and efficiency of the health delivery system. The interdisciplinary nature of this REU program offers opportunities to the participants to perceive the importance and applications of computer science and continue their education in this field. A series of training seminars and field trips equip students with knowledge specific to the various research projects as well as general skills required in graduate school. The students participate in a full range of research activities including designing and conducting experiments, analyzing data, documenting research results and writing papers for publication, and presenting at a symposium. Ten undergraduates from across the country were selected from a strong pool of forty applicants to conduct research on four HIT projects, along with four CS graduate students. The REU mentor team for 2011 includes Drs. Vamsi Paruchuri (PI), Yu Sun (Co-PI), Sinan Kockara, Micheal Nooner, Paul Young, Umit Topaloglu (UAMS) and Shengli Sheng. Further details about the award and the program can be found at: www.nsf.gov/awardsearch/showAward.do?AwardNumber=1062838 and http://sun0.cs.uca.edu/reu/program.html
REU Students: Back Row, L to R: Brent, Keenan, Ryan, Travis, Sait
Front, L to R: Chase, Aaron, Ashley, Karen, Melissa, Danielle, Tejaswi

REU Research Posters
Priyatham Anisetty
Research Project: Collaboration Problems in Conducting a Group Project in a Software Engineering Course, Mentor Dr. Paul Young
a. Undergraduate Student Research Paper and Presentation, Consortium for Computing Sciences in Colleges– Midsouth Region (CCSC-MS)

Cody Hudson
Research Project: Object oriented Method for Interoperability in HIT Systems, Mentor Dr. Paul Young
a. Council on Undergraduate Research, Conference of Research Experiences for Undergraduate Student Scholarship, Arlington, VA, October 2011, Mentor Paul Young

Aaron Crawford
Research Project: Predicting High Risk Fetetus, Mentor Dr. Victor Sheng

Danielle Osbourne
Research Project: Object oriented Method for Interoperability in HIT Systems, Mentor Dr. Paul Young

Aaron Crawford is a senior computer science major working with Dr. Victor Sheng in the Department of Computer Science. His talk “Applying Data Mining to Predict Fetuses’ Risk”.

Reshma Ginnavar is a Graduate student in computer science working with Dr. Yu Sun. Her talk “PID-based Target Bit Control for Video Compression”.

Cody Hudson is a senior student in computer science working with Dr. Paul Young. His talk “An Object-Oriented Approach for Interoperability in Health Information Technology (HIT)”.

Byron Burns is a master’s student in computer science working with Dr. Victor Sheng. His talk “Social Network Analysis”.

CS Graduate Student Presents at Vancouver

Benjamin Nordin, a graduate student of CS department, participated in the 2011 International Congress of Industrial and Applied Mathematics (ICIAM). The ICIAM is an international event that takes place once every four years. The 2011 ICIAM was held in Vancouver, BC, Canada in July 2011. At the congress, Ben presented his research work "Applying Interval Computing in Protein Sequence Motif Discovery" [http://meetings.siam.org/sess/dsp_talk.cfm?p=44378](http://meetings.siam.org/sess/dsp_talk.cfm?p=44378) directed by Drs. Bernard Chen and Chenyi Hu. By using interval computing in the K-Means algorithm in sequence motif searching process, they obtained higher quality sequence motifs on both original and extended protein sequence datasets comparing the quality of the previous work. Ben's trip to Vancouver was his first time ever flying in a commercial airline. Trip was sponsored by Dr. Hu's grant from the National Science Foundation. Ben is currently a Solutions Developer at Acxiom Corporation.
Dr. Victor Sheng, Assistant Professor of the Computer Science Department, received the best paper award in the 11th Industrial Conference of Data Mining ICDM 2011, which was held in New York, August 30 to September 3, 2011. (Information about the conference can be found at http://www.data-miningforum.de/). Dr. Sheng’s paper was selected to be the final winner from three nominated papers. All nominated papers made significant contributions to the field of data mining. The final selection was made after the presentations of the nominated papers and the following discussions.

Dr. Sheng’s research interest is centered on data mining, machine learning, and related applications. Over the past years, he has made significant contributions to data preprocessing, data acquisition, cost-sensitive learning, and mining user generated data. All of these topics have arisen from attempts to use data mining and machine learning techniques for real-world applications, where costs and benefits must be taken into account.

The title of his award winning paper is “Fast Data Acquisition in Cost-Sensitive Learning”, which is motivated by the questions from collaborators. Data acquisition is the first and one of the most important steps in many data mining applications. It is a time consuming and costly task. Acquiring an insufficient number of examples makes the learned model and future prediction inaccurate, while acquiring more examples than necessary wastes time and money. That is why collaborators always ask how many examples are needed. Thus it is very important to estimate the number examples needed for learning algorithms in machine learning.

In his paper, Dr. Sheng proposed an intelligent data acquisition strategy within a simple on-line cost sensitive framework. This intelligent data acquisition strategy is able to estimate the number of examples needed in each acquisition and acquire them simultaneously. It reduces significantly the time required for data acquisition and model building. This intelligent data strategy is also able to tell what kind of examples are the best for improving the model performance. This significantly reduces the total cost due to misclassification, data acquisition arrangement, computation, and examples acquired costs. Thus, the data-mining project can be deployed sooner.

Dr. Sheng also has won several awards for his outstanding research, such as the best paper award runner-up from the top data mining conference, ACM SIGKDD International Conference on Knowledge Discovery and Data Mining 2008, NSERC Postdoctoral Fellowship, and NSERC graduate scholarship. His current research on data quality improvement and data mining has received attention from world-class companies such as IBM, Google, Microsoft, and Siemens. In 2008, IBM provided $200,000 to support this research. Very recently, the National Science Foundation awarded him a research grant in the amount of $174,942 for the next two years and $85,886 pending in the third year.

Teaching Computational Thinking in One Semester

How do you teach computational thinking in one semester?

The tried and true method for teaching computational thinking is to have the students write lots and lots of programs. This is the technique we use to help ingrain the thought process into our majors. But Introduction to Programming is a three hour course, unlike our four hour Computer Science One class, with no direct follow up. Actually trying to teach a different way of thinking is a difficult task in itself. It is made much more difficult because of the limited amount of time. This semester I tried a different way, actually demonstrating computation thinking.

I showed the class how a professional programmer actually designs and implements a program from a vague specification. To do this I began with a lecture on program design covering basic topics like requirements analysis, top-down design, and bottom-up design (I cover this every semester). Next, I created a simple requirement for an example program: “Create a text-based game where the hero moves and battles across a level, the hero wins if he defeats the boss monster.” The scary part of this is that I purposefully put nearly zero thought into how to actually solve this problem. I just walked into class with the above sentence written on a post-it note. From there began a two day live demonstration where I solved the problem. As you can imagine giving such a demonstration, without any preparation, was quite nerve racking.

We started with the basic idea of how to model the data in the game. We looked at how to in a computer understandable way represent things like monsters, the "level," and the hero. We settled on a room type configuration that would be familiar to anyone who ever played a MUD from many years ago. Similarly, after deciding how to represent the hero, we decided that monsters were just heroes with different names and they would be attached to a certain rooms. After that we broke the given requirement statement into a top-down design that covered the game loop, how to actually move, and how to fight the monsters.

Next I began to program. Watching someone just silently type is boring, so I tried to externalize my thoughts as they were happening. This led to more of a stream of consciousness rambling then a well thought out oratory. That way they understood why I was typing what I was typing as I was typing it. I would also tell them what I expected to happen when the code ran by doing a sort of spoken trace through the code. I created the game using step wise refinement, in other words, I would write a little bit of code and test it. I would do this over and over. This let them see my mistakes, which were many. For example, I got stuck for 10 minutes trying to get the movement algorithm to function correctly when at the "edge" of the level.

Eventually, we had a simple game with no "art." It had no room descriptions other than the room coordinates. It only had two monsters. The level was a 3x3 square of rooms. It was more a prototype than a real game.

So what did I expect the students to learn from this? Computer science majors are expected to divine how to solve problems with programming by writing numerous lengthy programs during their first year, this ability is called computational thinking. The Introduction to Programming course is for non-majors. This is a group of people who have only a tangential interest in computer programming. So it is difficult to teach them how to approach problem solving using programming. Most programmers would have a difficult time putting into words exactly how to go about thinking through a problem and solving it using programming. Trying to learn computational thinking the way we teach majors, is time consuming. I thought that having the students see how a professional does might be valuable. They would have a something to compare their own techniques to. I showed them the thought process used to break real problems into manageable chunks. I also showed them how to envision the end result and work backwards to create the process that would generate that result. Finally, I showed them how to recover from mistakes. Programming is a mistake prone activity, it is important to have strategies to help you overcome them and to perceiver to your end goal.

Teaching computational thinking is difficult. There are many strategies one can use to try and teach this to people, but most are time consuming. This semester I tried a new one, actually demonstrating what computational thinking was. I believe it was quite successful and I plan to continue using it in the future.

Michael Nooner
UCA CS System Administrator/Instructor
According to IEEE/NSF Technical Committee on Parallel Processing (TCPP): “Parallel and Distributed Computing (PDC) now permeates most computing activities. The pervasiveness of computing devices containing multicore CPUs and GPUs, including home and office PCs and laptops, is making even common users dependent on parallel processing. Certainly, it is no longer sufficient for even basic programmers to acquire only the traditional sequential programming skills. The preceding trends point to the need for imparting a broad-based skill set in PDC technology at various levels in the educational fabric woven by Computer Science (CS) and Computer Engineering (CE) programs as well as related computational disciplines. However, the rapid changes in computing hardware platforms and devices, languages, supporting programming environments, and research advances, more than ever challenge educators in knowing what to include in the curriculum and what to teach in any given semester or course.”

IEEE/NSF TCPP has developed a novel set of curriculum for undergraduate courses to adopt. Department of Computer Science at University of Central Arkansas has been selected as one of eighteen early adopters (universities) globally under the leading by Drs. Bernard Chen and Sinan Kockara. This program enables select university professors around the world to revamp undergraduate Computer Science and Engineering curricula to better prepare software development students to take advantage of tomorrow’s multi- and many-core technology [1]. Two courses (Data Structure and Computer Science 2) are involved in this project during 2011 fall semester. Four other courses (Computer Architecture, Data Mining, Computer Science 1, and Distributed Object Computing) are planned to adopt the idea in spring 2012 (and after). The current IEEE/NSF TCPP curriculum proposal is posted at http://cs.gsu.edu/~tcpp/curriculum/?q=home.

Dr. Sinan Kockara arranges monthly seminars for faculty and students.

Speaker: Zhichao Liu, Ph.D. from Center for Bioinformatics, Division of Systems Biology, National Center for Toxicological Research, US Food and Drug Adm., “How Data Mining and Network Modeling Opened the Door to Retrieving, Organizing, and Integrating Information – Application in Drug Discovery”

Speaker: Hemant Joshi, Ph.D. from Acxiom Data Innovation Team, “Big Data – Big Challenges”

Speaker: Mengjun Xie, Ph.D. from UALR Computer Science, “Energy Attack on Server Systems”
Dr. Yadong Wu

Dr. Yadong Wu, a visiting scholar fully sponsored by the Chinese Scholarship Council joined the department in September. He is conducting advanced study in the area of multimedia computing with Dr. Sun. Dr. Wu is an Associate Professor and the Associate Dean of the College of Computer Science and Technology at Southwest University of Science and Technology (SWUST), Mianyang, China. He received “Outstanding Teaching Award” in 2008 and “Top Ten Youth Award” in 2010 from SWUST. He earned his doctoral degree in Computer Science and Engineering from the University of Electronic Science and Technology of China (UESTC). He currently serves as Chengdu chapter Vice-Chairman (2011-2012) of China Computer Federation - Young Computer Scientists & Engineers Forum (CCF YOCSEF). He is also an active member of ACM and CCF.

His main research interests include image/video processing, computer graphics and visualization. His research work in these areas has resulted in two patents and around 30 technical papers in journals and conferences. In addition, as a co-author, he has published three scholarly books. As principal and co-principal investigators, Dr. Wu conducts multiple research projects funded by different agencies including Natural Science Foundation of China (NSFC), etc. From February to September in 2009, he visited the Laboratory of Electronics, Computer Science and Image at the University of Burgundy, Dijon, France.

As an excellent researcher, his visit to the Department of Computer Science at UCA is financially supported by Chinese Scholarship Council (CSC). Since 2007, Dr. Wu has cooperated with Dr. Sun, a UCA Computer Science faculty member, in the area of video and image processing. Their joint effort has resulted in two journal publications and six peer-reviewed conference papers. They will continue their productive research during Dr. Wu’s visit. Meanwhile, Dr. Wu also contributes to our program by providing his professional service to our graduate project committee.

During his visit, Dr. Wu also hopes to broaden collaborations between these two Universities. SWUST and UCA have already built up international cooperation & exchange programs. He would like to see more exchange opportunities and activities occur among faculty and students of the two Universities.
Students in Action