Computer Science

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The Department of Computer Science (CS@VT) is within the College of Engineering at Virginia Tech. Founded in 1970, the department has 37 energetic, engaged tenure-track faculty, about a dozen postdocs/research faculty, 3 instructors and 3 academic advisors. Our department is characterized by its emphasis on interdisciplinary research and its collegial atmosphere. In fall 2014, our growing department has over 600 undergraduate CS majors (99% increase over fall 2008) and ~225 graduate students. During academic year 2013-14, we graduated 162 CS BS, 36 MS and 18 Ph.D. students. We emphasize both capstone and research experiences for our undergraduate students, and also provide a 5 year BS/MS degree. We are proud to report that our efforts to improve diversity in our student population have resulted in approximately 14% women in our current cohort of CS majors, and the same percentage of women CS graduates for the past 2 academic years!!

Our faculty have received a total 12 NSF/DOE CAREER awards and collaborate actively with industry: IBM Research, HP Research, Microsoft Research, NVIDIA, AMD and NetApps. Our research expenditures during fiscal year 2014 were $12.2M; total research funding at the beginning of fiscal year 2015 was $42.8M. We have an active industrial partners program, Computer Science Resources Consortium (CSRC) with approximately 90 member companies. The *Wall Street Journal* survey of industrial recruiters in Fall 2010 named CS@VT fifth among CS departments in the US in terms of the desirability of recruiting our students. Over the past 2 years our faculty and students have garnered significant honors including:

- 2014 VA Outstanding Faculty Award - Dr. Wu Feng,
- 2013 VA Outstanding Faculty Award for Teaching with Technology - Dr. Steve Edwards,
- 2013 Rising Star Award from the Roanoke-Blacksburg Technology Council - Dr. Kirk Cameron,
- Georgia Tech's GVU Center 20th Anniversary Impact Award - Dr. Doug Bowman
- ACM Distinguished Scientist - Dr. T.M. Murali
- IEEE VGTC Best Doctoral Dissertation Award - Alex Endert (current assistant professor at Georgia Tech)
- 2013 John Vlissides Award at SPLASH Doctoral Symposium - Ph.D. student Zalia Shams
- CRA Undergraduate Research Award – Honorable Mention - Brandon Amos (2014 CS BS graduate)

Continuing our commitment to diversity in computing, CS@VT faculty/staff serve as leaders of the Coalition to Diversify Computing and National Center for Women in IT (NCWIT) and as founders and 2014-15 chairs the NCWIT VA/DC Aspirations in Computing Awards.

We welcome contacts from potential students, colleagues and/or collaborators.

Sincerely,
Dr. Barbara G. Ryder
J. Byron Maupin Professor of Engineering
Head, Department of Computer Science

# Spring 2014 Commencement Celebration

Saturday, May 17, the Virginia Tech College of Engineering conferred degrees on the class of 2014, including approximately 115 Computer Science undergraduate students. Graduate degrees were conferred at the Graduate Commencement on Friday, May 16. On Saturday morning, Computer Science graduates, their guests and families, enjoyed a reception in Owens Banquet Hall.

Several students were recognized for outstanding achievements and contributions, including Brandon Amos, Adam Binford, and Tianyu Geng for undergraduate academic achievement, Antuan Byalik and Ariel Cohen for service to the department, and Ethan Gabel and Edward Mitchell as Outstanding Undergraduate Teaching Assistants.   Brandon Amos as awarded the David Heilman Memorial Award for Undergraduate Research, and Anthony Ardura was awarded the Outstanding CS Senior.

Three graduate students were also recognized: Lokendra Panwar as the outstanding master's student, Andrey Esakia for outstanding teaching, and Christopher Poirel as the outstanding doctoral student. David Butenhoff was awarded the George Gorsline Memorial Scholarship Award, given each year to a rising senior who has made the most significant rebound from his freshman year.

More photos from the event

VTHacks event attracts students from far and wide
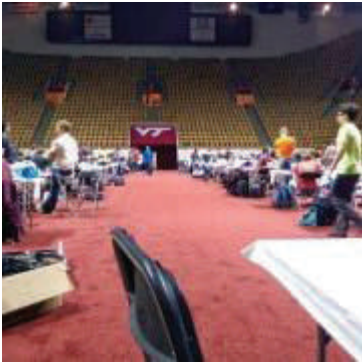
Over 400 participants brought their energy and enthusiasm to Cassell Coliseum for the first large hackathon held at Virginia Tech. The April 18-20 VTHacks event brought students from as far away as Texas, Florida, and Connecticut to work on innovative projects. Approximately 240 Virginia Tech students participated. Significant financial support from TechPad, SalesForce, and numerous other companies made this exciting event possible, according to VTHacks leaders Ben Johnston and Joella Fabe. The group is looking forward to planning another hackathon next year, as well as encouraging VT students to participate in hackathons held at other universities.

Spring 2014 Cool Topics

On April 24, 2014, students in the sophomore seminar class presented "cool topics" to CS student ambassadors, advisors, faculty, and each other. As part of the sophomore seminar, students are assigned to a group which will decide on a "cool topic" to present towards the later part of the semester. Many interesting topics were presented during the evening event. According to the instructor of the class, Dr. Cal Ribbens, "The goal of the Cool Topics Fair is to give students in the Sophomore Seminar an opportunity to explore an emerging topic in computer science, and to present that topic to their peers. Students also get experience working together on a group project, something that will be common as they proceed through their undergraduate curriculum."

During the events, students had a chance to present their topics to representatives from Capital One, Eastman Chemical, Fidelity, IBM, NetApp, Qualcomm, and Vanguard, as well as their fellow classmates and CS student ambassadors. The CS Department thanks Google for sponsoring the event.

Pictures from the Cool Topics Fair

VTURCS Undergraduate Research and Capstone Symposium

On Thursday, April 24, the Computer Science Department held its 12th VTURCS Spring Symposium. Virginia Tech Undergraduate Research in Computer Science (VTURCS) encourages Computer Science undergraduate students to become involved in research. This year's symposium featured 15 projects, including six capstone projects from the CS 4284 Systems and Networking Capstone course, CS 4414 Issues in Scientific Computing and CS 4624 Multimedia/ Hypertext.
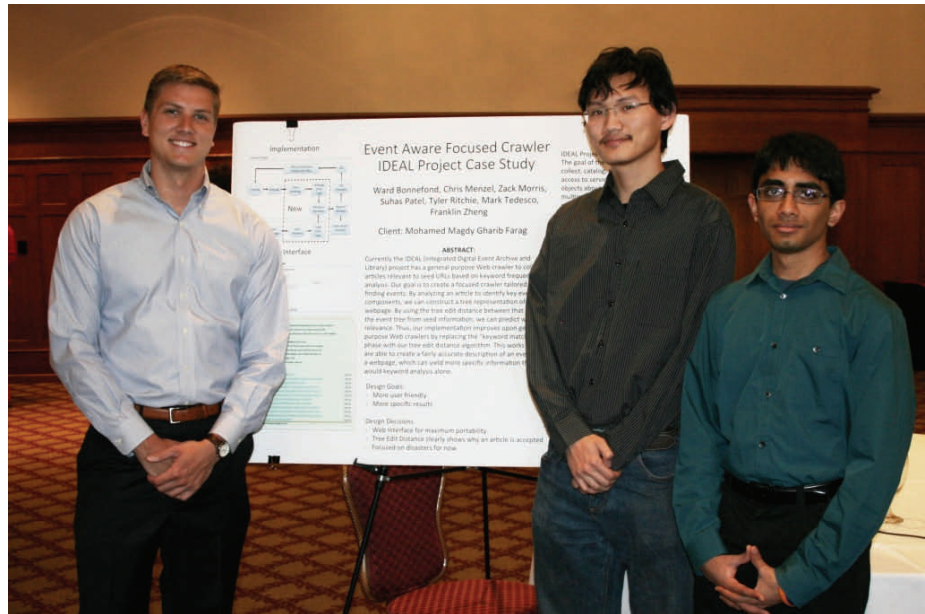
The organizers of VTURCS wish to thank all of the judges, including faculty Dr. Denis Gracanin, Dr. Eli Tilevich, and Dr. Godmar Back, and industry representatives Robert Gunter (Capital One), Don Sanderson and Sarah Bastian (Eastman Chemical), Christine Cantu (Fidelity), Steve Choquette (IBM), Laura Bain (Intel), Erin Starnes (Qualcomm), Greg Caufman (Solers), and Rebecca Taylor (Vanguard).

Awards were presented in four categories:

Research Award
1. R1: Enabling Efficient Intra-Warp Communication for Fourier Transforms in a Many-Core Architecture
Carlo del Mundo
Advisor: Wu-chun Feng

2. R6: Tracking Mental Engagement: Bringing Context to EEG Data
Ryan Merkel, Jayanth Prathipati, Andrew Weckstein
Advisors: Scott McCrickard, Bobby Beaton

3. R4: Bridging PhoneGap: Native Execution of JavaScript Mobile Applications on the Android Platform
Mohammed Davoodi, Ethan Holder
Advisor: Eli Tilevich

Capstone Award
1. C1: Fortran implementation of QNSTOP for global and stochastic optimization
Brandon Amos
Advisor: Layne Watson

2. C5: Event Aware Focused Crawler
Ward Bonnefond, Chris Menzel, Zack Morris, Suhas Patel, Tyler Ritchie, Mark Tedesco, Franklin Zheng
Advisors: Ed Fox, Mohamed Magdy Gharib Farag

3. C6: BargainBurg: A Study in Startup Engineering
Antuan Byalik, Tyler Kahn
Advisor: Eli Tilevich

Marston Award
1. C6: BargainBurg: A Study in Startup Engineering
Antuan Byalik, Tyler Kahn
Advisor: Eli Tilevich

T2. C3: Kinda Right
Austin Lopez-Gomez, Divit Singh
Advisor: Ed Fox

T2. R6: Tracking Mental Engagement: Bringing Context to EEG Data
Ryan Merkel, Jayanth Prathipati, Andrew Weckstein
Advisors: Scott McCrickard, Bobby Beaton

People's Choice Award
1. R4: Bridging PhoneGap: Native Execution of JavaScript Mobile Applications on the Android Platform
Mohammed Davoodi, Ethan Holder
Advisor: Eli Tilevich

2. R6: Tracking Mental Engagement: Bringing Context to EEG Data
Ryan Merkel, Jayanth Prathipati, Andrew Weckstein
Advisors: Scott McCrickard, Bobby Beaton

3. R1: Enabling Efficient Intra-Warp Communication for Fourier Transforms in a Many-Core Architecture
Carlo del Mundo
Advisor: Wu-chun Feng

Pictures from the VTURCS Symposium

CSRC makes another $75K donation to Investment in Excellence Scholarship

The CS Department's corporate partners program, the Computer Science Resources Consortium (CSRC), made a $75,000 donation to the Investment in Excellence Scholarship fund in December 2013. The Investment in Excellence Scholarship was created in the fall of 2007 by funding provided by the CSRC. The CSRC has been able to make a sizable donation in each year since the endowment was created. With the 2013 donation, the endowment has reached $325,000. The CS Department thanks the corporate partners who made this possible.

CS Students win 2014 Student Business Concept Challenge

Joe Acanfora (Computer Science), Jeff Morris (Computer Science), and Paul Feagan (AIS) won the VT Student Business Concept Challenge competition.

As described in the Roanoke Times: "[they] won $10,000 in scholarships plus summer workspace at the Virginia Tech Corporate Research Center. Vestigo [their real-time smartphone parking lot GPS system] uses a novel data collection system that takes advantage of inexpensive, high-quality laser rangefinders in tandem with a mobile service – to provide a real-time map of available parking. "

Their team also advances to the VT KnowledgeWorks Global Student Business Concept Challenge in August at the Hotel Roanoke, part of the Global Partnership Week celebration, that involves university students, faculty and people from all over the world.

CS major Brandon Amos represents VT at the ACC Meeting of the Minds in April 2014

Brandon Amos was selected to represent Virginia Tech at the ACC Meeting of the Minds, a venue where undergraduates present their research and scholarship. Congratulations to faculty mentor Layne Watson. Brandon's project is entitled "FORTRAN 95 Implementation of QNSTOP for global and stochastic optimization".

Brandon won Honorable Mention in the 2014 CRA Undergraduate Research Awards, working with Drs. Binoy Ravindran and Layne Watson. This is a second recent research honor for Brandon.

Spring 2014 CSRC Career Fair

On Monday, February 17, the Computer Science Resources Consortium spring luncheon was held in Owens Banquet Hall at Virginia Tech, followed by the CSRC Spring Career Fair later that evening. At the luncheon, company representatives, faculty, and invited students heard presentations from undergraduate and graduate students working on a variety of research projects.

Later in the day, over 400 students attended the CSRC Spring Career Fair in the Commonwealth Ballroom of Squires Student Center. The CSRC Spring Career Fair, in its twenty-third year, gave CS majors an opportunity to visit with our corporate partners to discuss internship, co-operative education, and full-time positions. The CSRC is pleased to see the continuing growth of its program, with four new members. The CSRC welcomed the following companies for Spring 2014: CustomInk, Hewlett-Packard Company, SimonComputing, and Visa. It is encouraging to see the membership in the CSRC grow.

Pictures from the Spring 2014 Career Fair!

Carlo Del Mundo places third in ACM Student Research Competition

Carlo Del Mundo, advised by Dr. Wu Feng, was selected as one of 6 finalists in the ACM Student Research Competition at Supercomputing 2013. Of the ~20 semifinalists, 6 were chosen as finalists to present their work at a technical session, and of those, 3 were awarded gold medals (Carlo was one of those). He advanced to the next stage in the research competition to vie with other ACM conference winners for a chance to win an ACM Grand Finals award.

Carlo's project was entitled ***Enabling Efficient Intra-Warp Communication for Fourier Transforms in a Many-Core Architecture.*** A version of his poster can be found here: http://carlodelmundo.com/posters/073113-on-efficacy-shuffle-sc2013.pdf

Carlo placed third in the Grand Finals. He started graduate studies at the University of Washington in Fall 2014.

Jackie Falatko featured in the Collegiate Times
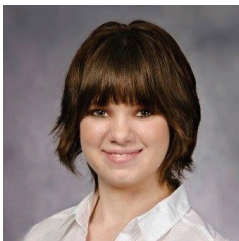
Jackie Falatko was featured in a complementary article in the Collegiate Times. This news article was featured on Wednesday, March 19, 2014. The article was to celebrate March as Women's month and it was great to see such positive publicity for our department!

http://www.collegiatetimes.com/lifestyle/article_f35ead94-afae-11e3-b855-001a4bcf6878.html

Fall 2013 CSRC Career Fair

On Monday, September 16, the Computer Science Resources Consortium had its fall luncheon and Career Fair. This fall's career fair, held in the Commonwealth Ballroom of the Squires Student Center, was the largest since the dot.com boom, with 84 companies attending. For the fall 2013 semester, the CSRC welcomed 13 new companies and institutes: Analysis, Computing, and Engineering Solutions, Appian, AT&T, AT Corp, Facebook, Interactive Achievement, JPI, Ocean's Edge, Praxis Engineering, Technology Management Associates, Telarix, Tenable Network Security, and Vizuri. The CSRC also welcomed back Sapient and Deutsche Bank.

The members of the CSRC were on campus to learn more about the department and to recruit students as full-time employees, interns, and cooperative education students. CSRC companies provide support for CS student organizations and student scholarships.

Attending the luncheon in Owens Banquet Hall were 100+ company representatives, CS faculty and undergraduate scholarship winners. Sixty undergraduates were recognized for receiving scholarships for the 2013/14 academic year. The majority of these funds were provided by the College of Engineering, with CGI, the Department of Computer Science, the CSRC Sotera Defense Solutions, and SWIFT contributing to the total.

CSRC members had the opportunity to visit several classes and speak with Computer Science students to discuss how to prepare for career fairs and interviews, the variety of opportunities in the field, and the abundance of jobs available to CS majors.

Pictures of the luncheon and the career fair.

Michael Stewart, Nathan Self, Siroberto Scerbo and Chris Frisina featured in the Roanoke Times
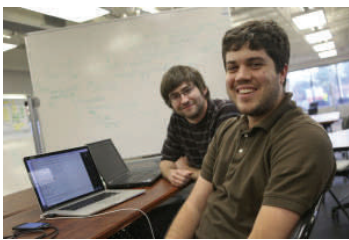
Radious is in the early stages of development on a "co-listening" application that would let users listen to music with friends. The Radious team is made up of four computer science graduate students from Virginia Tech: Michael Stewart, Nathan Self, Siroberto Scerbo and Chris Frisina. "We're just trying to take off the blinders that are created by these individual [mobile] devices," co-founder Michael Stewart said. "It doesn't have to be this way that we can only do things [like listen to music] by ourselves. We're trying to turn that on its head a little bit and give the opportunity for when we want to re-engage with the people that we might want to share those experiences with."

Because they don't have any intellectual property protection right now, the team didn't want to share the specifics of their idea. All they would say is that, in a way, they hope to take users back to the days of boom boxes when everyone could share musical experiences together.

The startup is based in NuSpark, an office donated by the Virginia Tech Foundation to act as a launch pad for the area's youngest companies. About eight startups are now based there, and behind each is a team of locals who have decided to forgo typical 9-to-5 careers.

See the May 4th Roanoke Times article.

Zalia Shams wins the 2014 SIGCSE Competition

Zalia Shams, advised by Dr. Steve Edwards, won the SIGCSE Student Research Competition in early March. Zalia's submission was entitled "Evaluating Quality of Student-written Tests". She provided the following abstract:

"Automated grading systems assess quality of students' tests using code-coverage. However, it has a number of limitations. All-pairs testing and mutation analysis are two alternative strategies where a student's tests are evaluated by counting how many faults the tests can detect from all other students' solutions and from solutions having artificially injected bugs in them. We devise novel ways to apply these alternative measures in classroom assessment systems. We also compare defect-revealing capability of code-coverage, all-pairs testing and mutation testing, in terms of their accuracy in predicting the number of authentic, human-written defects the tests find. Experimental result with more than 700,000 test data analysis shows that, all-pairs testing is the most reliable test quality measure of the three."

This is Zalia's second award recently for her research. In October 2013, she won the John Vlissides Award at the SPLASH Doctoral Symposium. This award is given annually at the top conference in object-oriented programming languages and systems, to the doctoral student "showing significant promise in applied software research." To read more about this award, please see http://www.sigplan.org/Awards/Vlissides/

Ji-Sum Kim places 2nd in ACM GHC Grad Student Research Competition

Ji-Sun Kim, 2012-2013 PHD graduate of the department, with co-advisors Denis Gracanin and Francis Quek, on being named 2nd place winner of the ACM Grace Hopper Celebration (http://gracehopper.org/2013) Graduate Student Research Competition. Her competition entry, entitled "Action-Transferred Design Approach of Navigation Techniques for Effective Spatial Learning in 3D Virtual Environments", describes the core part of her doctoral research.

Ji-Sun describes her research thusly: "The proposed action-transferred design approach was inspired by observations from theories of learning, action, perception, and neuropsychology. We empirically demonstrated the proposed action-transferred design approach addresses the practical usability issues of previous walking-like navigation techniques, while effectively supporting spatial learning. We believe that the action-transferred design approach can open many research opportunities and applications in human computer interaction (HCI) research area. These applications include virtual exploration of scientific datasets, historic places, or real estate, architectural or urban design, military or firefighting training, and even robotics (operation of unmanned vehicles)."

This is the 2nd year in a row that the department had a graduate student win 2nd place in this competition, As a winner of a Student Research Competition at GHC Ji-Sun will be eligible to participate in the Grand Finals of all the ACM student research competitions for 2013-2014: http://src.acm.org/?searchterm=student+research+competitions

Two Virginia Tech Ph.D. students named NUMA finalists

Two of our Ph.D. students, Siroberto Scerbo and Felipe Bacim, placed second in the Nokia Ubimedia Mindtrek Awards (NUMA). The award is based on their augmented reality game project called "Insane Llamas." They traveled to Finland in early October to compete for the top prize.

For more details, visit the CHCI news page: http://www.hci.vt.edu/news.php

Cory Bart awarded NSF Graduate Fellowship

Congratulations Cory, on your award of a NSF Graduate Fellowship! This is a great honor for you and for the department. Great job!
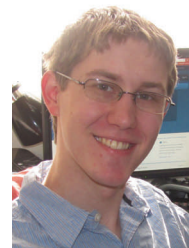
Grand prize winners of Yelp Dataset Challenge

CS and DAC Graduate Student Ji Wang (advisor: Chris North), along with CS/DAC PhD graduate Sheng Guo (advisor: Naren Ramakrishnan), and University of Toronto graduate student Jian Zhao were one of four grand prize winning teams in round one of the Yelp Dataset Challenge. Other winners are from CMU, Stanford, and Berkeley.

The objective of the contest was to help guess a review's rating from its text alone, by developing better ways of mining and summarizing text. Wang and colleagues developed a novel clustered layout word cloud visualization for summarizing product reviews that improves upon traditional word cloud visualizations. Their winning entry uses dependency parsing to infer relations from text that are then used to better organize layouts. Learn more about the challenge and the winning entries from: http://www.yelp.com/dataset_challenge/.
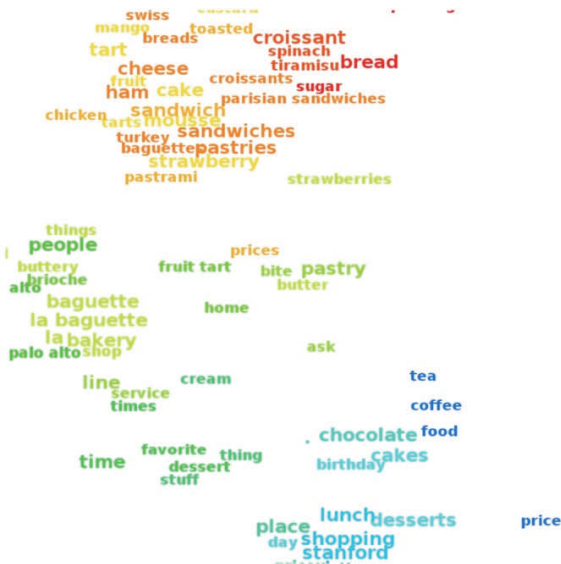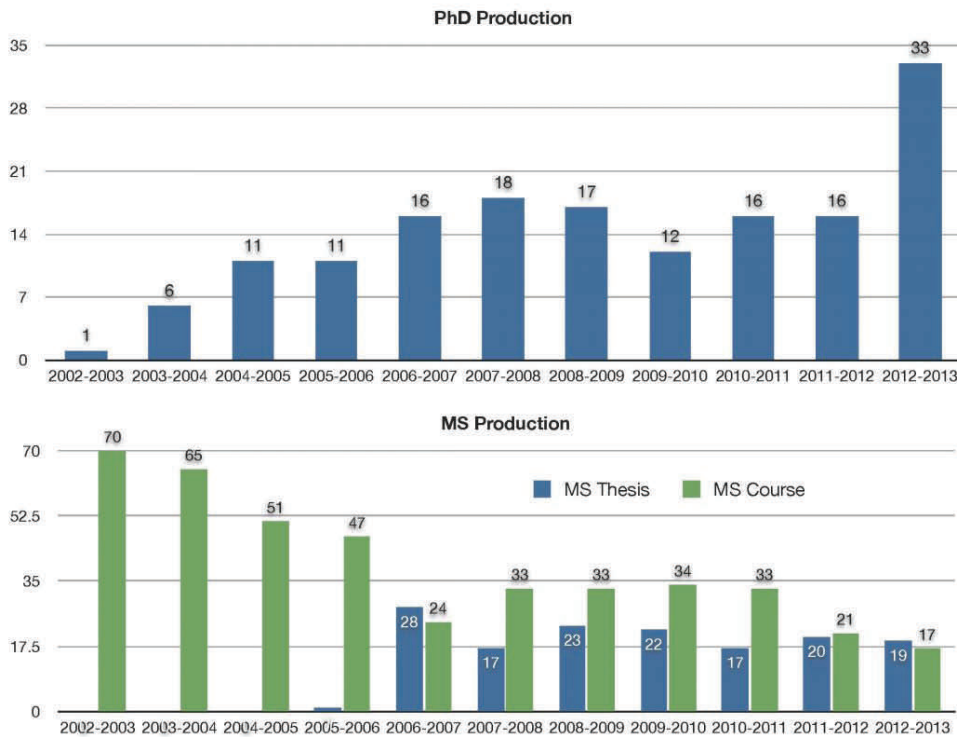
Figure 3.4: Clustered Layout Word Cloud of La Baguette Bakery at Stanford, CA

Department graduates 32 PhD students in AY 2012-13

PhD Production

MS Production

The Department of Computer Science graduated 32 PhD students and 36 Master students in the academic year 2012-2013. This is a significant increase over the previous years and is the highest number of PhD's awarded in the history of the department. This record is a very impressive amount, given that the CS department has only 36 tenure-track faculty.

The last four years we graduated an average of 15 PhDs per year (17, 12, 16, and 16) and an average of 50 MS students per year (56, 56, 50 and 41). This year's production of **32 PhD graduates** constitutes a large increase, while the 36 MS degrees are a slight drop from previous years. We believe we are seeing this shift to more PhD and fewer MS degrees due to an increase in research effort in the department in the last few years.

PhD production is one of the important measures of research activity and an indirect indicator of the quality of the department. While 32 students might be just a one year data point, the large jump from previous years hints towards the growth of our research enterprise.

Another positive result is the number of female PhD graduate. In 2013 we graduated 76% males and 24% females in our PhD program, which is above the national average for female PhD production. This also reflects our emphasis on diversifying our student body.

Alumna Dr. Mary Miller named Business Woman of the Year

Congratulations, Dr. Miller, on being named Business Woman of the Year by the Montgomery County Chamber of Commerce. Dr. Miller was a founding member and past president of the NewVA Century Technical Council now named the Roanoke-Blacksburg Technology Council. She was recently inducted into the COE Academy of Excellence and was elected last year as COE distinguished alumna speaker at graduation.

VT Creative Computing alumna, Kunmi Otitoju, named one of the 30 Most

Kunmi Otitoju, (MS in CS from VT in 2007), was recently named one of this year's Forbes '30 Most Promising African Entrepreneurs' List. She built on her foundation in computer science (CS, Howard University, summa cum laude) and design to eventually found Minku Design in Barcelona. This has led her back to her roots in Africa. Now multinational, Minku designs in Spain and manufactures in Nigeria. It specializes in custom designed leather bags for men and women. In her own words, "two years on, Minku continues to define a fresh sub-Saharan aesthetic through its subtle use of cultural elements and artisan approach to contemporary bag-making." Yes, that is some distance from CS, but the combination of understanding of craft (of programming), the role and practices of design, computational thinking, and entrepreneurship come together in this exciting business.

The website for Minku is http://www.minku.com. The key philosophy of the company is

- There lies a unique beauty in things painstakingly handmade.
- Repurpose, reuse, and reduce waste (80% of our bag interiors are lined with repurposed items of Yoruba ceremonial dress - aso-oke and damask fabrics).

She was attracted to Virginia Tech for a Masters in computer science in large part because of our support for "creative computing". Expanded by the recent founding of the Institute for Creativity, Arts and Technology, creative computing is both an undergraduate track and a special foci in the Human-Computer Interaction area of our graduate programs. Her master's thesis, "Man in the Mirror: A Mythology-Driven Exploration of Multiple User-Interpretations in a Multimedia Space" led to two research publications:

Otitoju, K., **Harrison, S.** (2008) "Interaction as Component of Meaning-Making" *Proceedings of ACM DIS 2008,* Cape Town, South Africa http://doi.acm.org/10.1145/1394445.1394466

Otitoju, K. and **Harrison, S.** (2008) "Understanding User-Expectations using Ambiguity" *UPA Europe 2008*, Torino, Italy

Besides the article in Forbes, you can read about her incredible journey (including an internship at Goldman Sachs) at http://foundersgrid.com/fashion-startup-nigeria.

CS PhD 2012 graduate Alex Endert winner of the first annual IEEE VGTC

Alex Endert (and advisor Chris North), winner of the first annual IEEE VGTC Best Doctoral Dissertation Award. The award was presented at the IEEE VIS Conference in October 2013.

Alex completed his dissertation in Computer Science at Virginia Tech in August 2012, under advisor Chris North. His dissertation is entitled "Semantic Interaction for Visual Analytics: Inferring Analytical Reasoning for Model Steering". Alex also won the Best Dissertation Award in the Department of Computer Science.

"The IEEE VGTC Doctoral Dissertation Competition IEEE Computer Society Visualization and Graphics Technical Committee (VGTC) has recently established the Best Doctoral Dissertation Award program to recognize outstanding academic research and development in visualization and visual analytics. The dissertations must address a topic relevant to visualization or visual analytics. The competition will be administrated by the IEEE VGTC Visualization Pioneers Group (VPG) under the auspices of VGTC. The award, to be known as the IEEE/VGTC VIS Pioneers Group Doctoral Dissertation Award, will be presented annually at the VPG Reception held at IEEE VIS conference."

Alumnus Raj Suri wins Dorito's Crash the Super Bowl Contest

Visit the College of Engineering website for more information about Suri and his winning commercial:

http://www.eng.vt.edu/news/computer-science-alum-s-doritos-commercial-plays-super-bowl-takes-1-million-prize

Congratulations to Chris North on his COE Dean's Award for Research

Congratulations to Dr. Chris North on his COE Dean's Award for Research Excellence -- an award attesting to an "extraordinary level of achievement in research" over the past 2 years. This award is an honor for both you and for the department! It is also wonderful recognition of the excellent visualization work in the Discovery Analytics Center.

Congratulations to Wenjing Lou on becoming a COE Faculty Fellow

Congratulations to Dr. Wenjing Lou who became a COE Faculty Fellow at the College awards ceremony on May 7, 2014. This award comes with $5,000 stipends per year for 3 years to be used for discretionary spending. The award is given "for exceptional merit in research, teaching and/or service". The award is a great acknowledgement of faculty achievement!

Congratulations to Steve Edwards - Webcat reaches a milestone

Congratulations to Dr. Steve Edwards as Web-CAT reaches this impressive milestone in handling student assignments (external and internal). Steve reports that over 60,000 were processed in the past 30 days. The highest weekly total reported by Steve has been just under 25,000 with the busiest day last month having over 5,000 submissions from students at multiple institutions.
Another measure of the size that Web-CAT has grown as an impactful service: the primary server has almost 13,000 user accounts from about 20 schools. For more about Web-CAT, please see Steve's webpage:

http://people.cs.vt.edu/~edwards/.

Wu Feng wins SCHEV Outstanding Faculty Award

"The State Council of Higher Education for Virginia has named Virginia Tech's Wu Feng as a 2014 Outstanding Faculty Award winner.
The awards, sponsored by the Dominion Foundation, a philanthropic unit of the energy company based in Richmond, Va., is the commonwealth's highest honor for university faculty. It honors a Virginia faculty member's commitment to excellence in teaching, research, knowledge integration, and public service.

To read more, please see the VT News Article:
http://www.vtnews.vt.edu/articles/2014/01/012414-engineering-wufengstateaward.html

Eli Tilevich receives IBM Faculty Award

Congratulations Dr. Eli Tilevich, on your recent IBM Faculty Award. Eli describes the focus of this award as follows: "The intent of this award is to support my ongoing research and teaching projects in mobile computing at both graduate and undergraduate levels." It is great to have this strong interest from IBM in your efforts in mobile computing. Eli has received previous awards from IBM for his research.

Dr. Kirk Cameron selected as an organizer for the 2014 IAFOE

Dr. Kirk Cameron has been selected as an organizer for the 2014 Indo-American Frontiers of Engineering Symposium. Kirk was asked to chair and organize a session on Green Approaches to Communication with an Indian computer scientist colleague. (Note: Kirk is a column editor on green computing for IEEE Computer.) Being an organizer for this Symposium is an honor, as is being asked to attend.

The Indo-U.S. Frontiers of Engineering (IAFOE) program aims to bring together outstanding, early-career Indian and American engineers from industry, universities, and other research institutions to introduce their areas of engineering research and technical work, thereby facilitating an interdisciplinary transfer of knowledge and methodology that could eventually lead to collaborative networks of engineers from the two countries.

The 2014 Indo-American Frontiers of Engineering will be held May 19-21, at the Infosys Center in Mysore, India. About 60 outstanding engineers under the age of 45 will meet for an intensive 2-1/2 day symposium to discuss cutting-edge developments in four areas: Biomaterials, Water Resource Management in the Face of Climate Change, Green Approaches to Communications, and Engineering in the Context of Big Data. The event facilitates international and cross-disciplinary research collaboration, promotes the transfer of new techniques and approaches across disparate engineering fields, and encourages the creation of a transatlantic network of world-class engineers.

T.M. Murali named ACM Distinguished Scientist

Congratulations to Associate Professor T. M. Murali for being named an ACM Distinguished Scientist. The Association for Computing Machinery (ACM) recognizes up to 10% of its members with this membership grade. Recipients must have at least 15 years of professional experience and must have made significant accomplishments or impact in the computing field.

To read more, please see the College of Engineering article.

Osman Balci receives SCS service award

Osman Balci has been awarded the McLeod Founder's Award for Distinguished Service to the Profession by The Society for Modeling and Simulation International (SCS). SCS states "the awards in this category are intended to recognize outstanding contributions to the science and technology of the modeling and simulation process." SCS is the world's premier professional society devoted to modeling and simulation.

VT GPU Computing Workshop a sold out success

The Virginia Tech Department of Computer Science and NVIDIA collaborated to host a hands-on, two-day workshop to survey the broad range of GPU-accelerated applications across all domains of scientific and engineering research. The August 14-15 workshop attracted more than 120 attendees from four institutions and 18 different departments. Participants included graduate students, postdocs, researchers, and professors all learning first-hand how to program graphics processing units (GPUs) via the use of libraries, OpenACC compiler directives, and CUDA programming. Participants performed hands-on exercises to acquire the skills to use and develop GPU-aware applications.

Dr. Wu Feng of the Department of Computer Science began the workshop with an overview addressing heterogeneous parallel computing and an introduction to HPC environment and tools at Virginia Tech. Other presentations were made by Bob Crovella, who leads a technical team at NVIDIA and is responsible for supporting GPU computing products in the high performance computing ecosystem. Crovella gave an introduction to GPU computing and then dove into two more intense sessions, all hands-on by the participants.

Feng and Crovella addressed why heterogeneous computing and GPUs have become so important in sustaining and advancing the state of the art in scientific and research computing. Virginia Tech has its own GPU-accelerated supercomputer, HokieSpeed, designed and deployed by a team led by Dr. Feng, which debuted as the most energy-efficient commodity super computer in the U.S. in November 2011.

CS@VT Celebrates Faculty, Staff, and Student Achievements at Spring

On Friday, April 25, the second annual CS Spring Awards Banquet was held to recognize faculty, staff, and student achievements from the 2013/2014 academic year. In addition to faculty, staff, and student award winners, CSRC members Capital One, Eastman, Fidelity, IBM, Intel, NetApp, Qualcomm, Solers, and Vanguard sent representatives to the two days of events.

Pictures from our Spring Awards Banquet

VT helps host National Center for IT event honoring high school girls

Excerpts by Steven Mackay:

The Virginia/Washington, D.C., affiliate of the National Center for Women in Information Technology held its 3rd annual Award for Aspirations in Computing ceremony during the recent Capital Area Professional Women in Computing Conference. The award honors young women at the high-school level for their computing-related achievements and interests. Awardees are selected for their computing and information technology aptitude, leadership ability, academic history, and plans for post-secondary education. On the national level, the award is part of the center's talent development program that encourages young women to succeed in a field where they are underrepresented. It provides winners with visibility, community, leadership opportunities, support, research experiences, scholarships, and internships.

Dr. Barbara Ryder served on the organizing committee, as did Libby Bradford, director of external relations and undergraduate studies for the computer science department.

For more information, and to see the original article, visit the College of Engineering website:

https://www.eng.vt.edu/news/virginia-tech-helps-host-national-center-it-event-honoring-high-school-girls

Pictures from the Event

How you can help CS@VT!

The generosity of alumni, parents and friends of CS@VT allows us to fund many special activities in the department.   The budget cuts over the past 6 years have resulted in the department not having sufficient funds to flourish and grow to world-class stature, a goal we aim to achieve.

In the past, we have concentrated on building a departmental scholarship fund, the Investment in Excellence Scholarship fund first endowed in 2007. Today, through the tireless stewardship of Ms. Libby Bradford, Director of External Relations for CS@VT, this fund generates about $12,000 annually for scholarships. We also have special named scholarships, including the George Gorsline Scholarship, the Anne & George Gorsline Scholarship, the Griffith-Strader Christian Scholarship and the CGI Scholarship (see www.cs.vt.edu/undergraduate/scholarships for more details). We would welcome your contributions in support for any of these fine scholarship funds. Please see our scholarship donation page for more information.

However, in order to achieve our goal of ranking among the top 10% of CS departments in the US, we need additional funds to attract outstanding graduate students (e.g., fellowships), to retain outstanding faculty members active in cutting edge research, to maintain state-of-the-art research facilities and to encourage exploration of high risk, high payoff research ideas. We need to start an endowment for CS@VT that will support these goals, and eventually grow into support for endowed faculty fellowships and named chairs.

With your help, together we will accomplish these goals. We are embarking on a fundraising campaign to establish an endowment for our department. Of course, we welcome your financial support at any level.   Nevertheless, we urge you to consider a 5-year pledge of a gift at the $300, $600, or $1200 level annually.   Such gifts will be acknowledged publicly on our *CS@VT Benefactors* wall in McBryde 106.

How to make a pledge

To make a pledge, please go to www.cs.vt.edu/donations and look for "How to Give to Computer Science" at the bottom of the page. To ensure the department receives your gift, please follow these instructions:

We ask you to specify the Department of Computer Science as the recipient of your gift. To ensure this happens when you use the online gift form, in the section entitled "Gift Information" please select "Other Designation" and type "Departmental Programs - 875766."

You can securely make a pledge, make a payment on an existing pledge, make a gift using your credit card, or request information on donating securities, making a planned gift or using electronic funds transfer from your checking account, via the online pledge form.

Many employers will match donations from employees. To see if your employer will match your donation, please see the Matching Gifts page.

When you make a donation, please send e-mail to donations@cs.vt.edu to notify us of your gift. We would like to promptly acknowledge your gift!

To make sure the CS Department has your current information, please click here. If you know of other CS@VT alumni who are not getting our newsletter, please share the link with them.