Welcome from the Chair

The Computer Science and Engineering Department is expanding. We welcome the Information Technology program faculty (formerly at Lakeland) to our Department. This adds 5 tenure track faculty and two new degrees, a BS in Information Technology and an MS in Information Technology. The BS in IT is unique in several ways. All major courses are currently online and the degree does not require the Calculus and Physics component of our other degrees in CS and Computer Engineering.

The Department is playing a major part in the TEAm grant awarded by the State of Florida to USF to increase enrollment and graduation in computing related disciplines. We welcome new instructors Dr.’s Bill Gauvin and Yan Zhang. We plan to hire Tenure track faculty and instructors to augment our efforts further.

Assistant Professors Nate Paul and Yao Liu have both received their first external grants. Sudeep Sarkar has been named a 2014 AAAS Fellow! We are making inroads in GPU and parallel computing through the CUDA Research center obtained with the leadership of Yicheng Tu.

The CSE Dept. is also excited to be playing a role in the Florida Center for Cybersecurity. We have several faculty and students doing Computer Security research and plan to enhance our course offerings in this critical area.

As part of the TEAm effort, we are working to expand the number of women in our program. This involves outreach locally and making our courses more inclusive with interesting and relevant programming assignments. We’d like to send some women students to the Grace Hopper meeting and are looking for donations to support travel.

Please consider donating to this worthy effort or our effort to endow an undergraduate scholarship through the quick links section on our home page. If you are an alumnus and going to be nearby please consider stopping by campus to see the changes.

Wishing you a great summer here in Florida or wherever you may be (and please drop us an email with your news and/or join our alumni group on Linkedin!)

Best Wishes,
Lawrence O. Hall
Distinguished University Professor and Chair
CSE Cybersecurity

The CSE department has two research groups focused on mitigating computer-security problems: Jay Ligatti’s group includes 7 graduate students and focuses on software security, while Yao Liu’s group includes 4 graduate students and focuses on network security. Their research has been funded in part by the NSF, DoD, and several companies in the Tampa Bay area (Team TACLAP, Impulse Point, Environion, and Raytheon).

These two groups are studying a range of security problems, including: code-injection attacks (e.g., attacks on banking-website databases), policy composition (e.g., ensuring that firewall rules are consistent), location-based policies (e.g., verifying that parties involved in a communication are at allowed locations before sharing sensitive data), vulnerability analysis of wireless systems (e.g., attacks against existing wireless channel-based authentication systems), and device and user fingerprinting (e.g., determining a driver’s identity with data recorded on an in-car smartphone, and the privacy implications of such determinations). The project on location-based policies is a collaboration between Liu and Ligatti; preliminary findings will be presented this September at the European Symposium on Research in Computer Security (ESORICS) in Wroclaw, Poland.

Bulls Engineering Success Training (BEST)

The Bulls Engineering Success Training (BEST) program is a College-wide program for enhancing experiential learning for our students. The BEST program provides selected undergraduate students in the College of Engineering an interdisciplinary industry-based capstone design experience. BEST projects are contributed by industry. A BEST team comprises six students and each student earns up to six credit hours over a period of two semesters. The BEST program prepares students for their first job in industry and enables them to hit the ground running upon graduation. All BEST students are supervised by a College faculty member and mentored by an industry partner. Being part of the BEST program is a great way for companies to help prepare the next generation of practicing engineers. Participating companies benefit directly from having a project completed and gain recruiting advantages in hiring new engineers.

The last academic year (2013-2014) was the first year for the BEST program. Last year we had four projects from CAE, Harris Corporation, OSCOR, and one unnamed company. This coming academic year we have expect to have six to eight projects spread across multiple Departments in the College. All of the projects have Computer Science or Computer Engineering students on board as integral members of the team.

For more information about the BEST program contact Ken Christensen (christen@csee.usf.edu).

USF Named a CUDA Research Center by NVIDIA Cup

The CSE department at USF has been named the CUDA Research Center by NVIDIA Corp, which is a leading manufacturer of GPUs. The Research Center will become an integrated component of a visionary research/teaching institute in the State of Florida for training university students and staff in software design and development on massive parallel systems. Computer Science Associate Professor Yicheng Tu will serve as the leading PI, and Sagar Pandit (USF Physics), Andres Tejada-Martinez (USF Environmental Engineering), and Zhixin Miao (USF Electrical Engineering) acting as Co-PIs of this award. The research falls into two categories: (1) collaborative work between computer science and domain experts focusing on GPU algorithms for particular computational problems; and (2) the theory and practice of building system software on GPUs, with a focus on big data management systems. This award will greatly enhance existing research and nurture new collaborations in the field of massive parallel computing at USF.
Spotlight on New Grants

Dr. Yao Liu has received an Army Research Office grant from DoD in the amount of $340,000 for three years. The project is focused on network security. It is titled: Broadcast and High-power Reactive Jamming Resilient Wireless Communication. The goal of this project is to raise wireless communication from non-existence to being available in an extremely hostile environment (e.g., a battlefield), where FHSS and DSSS are completely defeated by a broadband and high-power jammer. Yao will investigate techniques that solve the major challenges in utilizing the unjammed bits in the reaction time of a reactive jammer to establish the anti-jamming wireless communication.

Dr. Adriana “Anda” Iamnitchi has received an unrestricted gift of $25,000.00 from Yahoo! to support her research titled “Understanding and Mitigating the Social Contagion of Unethical Behavior in User-Generated Content Systems”. This is a Yahoo! Faculty Research and Engagement award.

Dr. Miguel Labrador has received an Interdisciplinary grant from Draper Laboratories. The grant is called HeatMApp, which is an information system to help treatment of Heart Failure patients. As part of this project, the system includes an Android-based application, internal and external sensors, and a backend computer with a database to store and visualize patient’s information over time. Overall, the project is a collaborative effort between Draper, USF College of Engineering and the College of Nursing to build an information system to help patients with heart failure (HF) conditions.

Student News

CSE Ph.D. alumnus Vijaykrishnan Narayanan, now a professor at Pennsylvania State University, has been appointed as Editor-in-Chief of IEEE Transactions on Computer Aided Design of Integrated Circuits and Systems (TCAD) for a two-year term beginning January 1, 2014. Dr. Ranganathan was Vijay’s major professor.

It was a clean sweep in March at 2014 Southeastern Collegiate Cyber Defense Competition at Kennesaw State University in Georgia, where USF Cyber Defense team won the “Best in Service” award. Thanks to adjunct faculty member Jeremy Rasmussen, the team maintained the best overall level of network services in a simulated business enterprise. Congratulations to Captain, Will Seed and Co-Captain Brad Trotter along with members, Sean Murphy, Todd Knieriemen, Bryan Fernandez, Daniel Sweet, John Rooks and Shane White.

CSE Faculty Research Awards

Professor Sudeep Sarkar has been elected as 2014 fellow of the American Association for the Advancement of Sciences (AAAS).

Dr. Hao Zheng has been recognized with the 2014 International SPIN Symposium on Model Checking of Software award for best paper titled “Local State Space Construction for Compositional Verification of Concurrent Systems”.

Faculty News

Dr. Srinivas Katkoori has been elected to serve as a member to the IFIP WG 105 group on Design and Engineering of Electronics Systems by the International Federation for Information Processing (IFIP).

The PTC blog mentioned Dr. Yu Sun opinion article on “Speed Dating Offers New Ways to Collaborate”. The article is about novel collaboration methods within the university research community.

Dr. Swaroop Ghosh has been appointed an IEEE Senior Member.
Student Awards

Student accomplishments in research and scholarship

CSE student, Kenneth Ramclam received the Richard Newton Young Fellow award at the 51st Design Automation Conference (DAC). Mr. Ramclam received his B.S. in Computer Science and Engineering from the University of South Florida. Along with his many accomplishments, he is also working towards his Masters’ degree in the LOGICS lab with Dr. Swaroop Ghosh. Kenneth’s research interest is hardware security and circuit design using emerging technologies. In addition, he has published 2 conference papers and filed a provisional US patent.

Connect on Facebook and Linkedin

Be sure to like our Computer Science and Engineering page on Facebook to see more news of what’s happening in the department.

We hope that you will join our alumni group on Linkedin. The group exists to connect both current students and alumni with each other and the department, as well as discover new job opportunities. The group name is “USF Computer Science and Engineering Alumni/Students.” Join today!

(This group is managed from the Dept. and has no affiliation with the USF Alumni Association.)