Welcome to the Department of Computer Science. I am very proud of our department and its contributions to the overall mission of the University. Led by experienced educators, our undergraduate and graduate programs continue to grow and prepare our students for dynamics careers or higher education in the fields of Computer Science and Information Technology.

The Department has been experiencing an increase in undergraduate enrollment that comes from the growing attention Computer Science has been receiving on the national level. Our new Information Technology (IT) program has also been gradually growing in response to the market’s ever-increasing demands for IT professionals.

We recently hired a new faculty member, Dr. Wei Chang, with expertise in the areas of mobile computing and cyber security. Dr. Chang is an experienced researcher with numerous scholarly articles that have appeared in prestigious journals and conferences, and he is the faculty in charge of the new Cyber Security concentration in the graduate program.

Several new courses have been created for this academic year. In fall 2016, for the first time an introductory course in computer science (using Python) was offered for non-majors. Our goal is to generate interest in computer science among non-majors and also to attract potential CS majors. Dr. Chang will offer a new course, entitled Secure Mobile Computing, in spring 2017. Another new course, Big Data and Web Analytics, will also be offered in spring and it will introduce students to processing large quantities of data over a proprietary Hadoop cluster recently acquired by the Department.

The Computer Science students and faculty continue to be involved in research. Andrew Linton (a former graduate student) and his faculty mentor published a research paper at the 29th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems, which was held in Japan in August 2016. Among many, two graduate students are currently developing an innovative application of NoSQL databases using Hadoop’s distributed computing environment; and an undergraduate student is investigating application of artificial immune systems in computer security.

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Greetings From The Chair

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Our undergraduate students continue to participate in the ACM’s International Collegiate Programming Contest. This November two teams, coached by Professor Mary Krueger, will represent the Department at the ACM’s 2016 contest. Go Grays and Crimsons!

Many of our students gained work experience over summer by interning at technical companies in the area while earning credit. Last summer, a number of our undergraduate and graduate students interned at companies such as: AXA Insurance, Morey’s Piers, QVC, Starship Health Technologies, and TCG Capital, and PJM Interconnection. Our students all agree that this is a perfect way to complement the education they receive in the classroom and to gain experience developing professionally in a real-world environment.

If you are a former student reading this newsletter, we would love to hear from you. Thanks for visiting!

* We are happy to report that Dr. Suzan Kökna-Tezel (Professor Emeritus) survived her first hurricane in Cocoa Beach, Florida. Suzan also reported that she has started playing the Ukulele! For the full story, please see Page 9.

* Two new courses have been added to the spring, 2017 schedule. Dr. Wei Chang will teach Secure Mobile Computing and Dr. Babak Forouraghi will teach Big Data & Web Analytics.

* Madeline Yeakey, a Business major, has returned for her second year as an Office Assistant/Work Study for the department. Nick Boyd, a Junior majoring in Computer Science, and Sean Smith, a freshman majoring in Computer Science, have also joined our team of student-workers!

* Congratulations to Alan Nochenson and his wife, Paige, on the birth of their first child. Dov Yonah Nochenson entered the world on August 28th, weighing 6lb 15oz and 19” long. Mazel Tov!

* Over the summer, Professor Krueger’s freshmen were assigned Switch, a book which covers Edison-Google and provokes thought about utility computing in the future. After the fall break, her students were required to submit a one-paragraph statement about the book.

* CS Integrated Five-Year Degree Program: The CS Department recently submitted a proposal for an accelerated BS/MS in Computer Science. This program would enable students to earn a Bachelor of Science in Computer Science and a Master of Science in Computer Science within a five-year period. For further information, please contact the department at csci@sju.edu.

* We welcome the following new faculty to the fall semester: Marius Ndini & Alan Nochenson, Adjunct faculty; and Wei Chang, a new tenure-track faculty member.
Elefterios (Lefty) Lazaridis  
(QVC / King of Prussia, PA)  

During the summer of 2016, I was given the opportunity to become an Enterprise Portfolio Management Intern at QVC's headquarters. It was an 11-week internship and I had to make sure that I met the expectations of the Enterprise Portfolio Management (EPM) organization, and also the expectations of QVC's internship program competition. During the internship, I demonstrated competencies in leadership, building relationships, communication, and producing quality results on schedule that meet stakeholders requirements.

My primary goal was to build a website for QVC's Enterprise Portfolio Planning & Prioritization Process. This process provides QVC's employees with a way to submit their project idea to QVC Leadership, and ask for their approval to start their project. They could say “yes”, “no”, or “maybe later”. Using SharePoint, I also created a workflow to make it easy for anyone at QVC to submit a request to start a project.

I used traditional project management process (PMP) and systems development lifecycle (SDLC) methodology to deliver an interim solution (to be used by all of QVC) that met stakeholder requirements by the August 12th, 2016 deadline. In addition, upon request, I recommended a solution for the future, which is based on analysis of two tools (Coupa vs Appian) that QVC purchased some time ago.

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I was very surprised with how well organized both the company and internship program are operated. Special events were planned specifically for the interns. Some events included: networking; meeting various employees from different departments to give us a brief synopsis of their role at QVC; meeting David Venable (QVC’s most well-known host); and meeting QVC’s senior executives and CEO, Mike George.

I also had the opportunity to meet Lori Greiner, QVC’s “queen” and one of the most successful investors. Lori is also famous for being a regular judge on the TV show Shark Tank.

QVC has a very unique culture and that feeling hits you as soon as you walk into the building. The people are welcoming and willing to help you succeed. After my internship experience, I understand why QVC is so successful. They take care of their employees the same way they treat their customers.

QVC offered me a permanent, full-time position upon my graduation in December, which I plan to accept.
DNT leverages these resources to create a smart-phone application that supports diabetes management communications within a specific micro-network and community (including family, friends, etc.). The micro-network provides support for diabetes management in the context of that specific family/household via private sharing of information. This consists of healthy eating habits and food shopping tips, as well as positive social reinforcement.

This project will help to improve diabetes-related behavioral interventions by increasing our understanding of how an augmented social support system affects diabetes management and potentially reduces disease complications.

I found this position by searching on Google. I submitted my resume to the email address provided and was called in for an interview. I will be working for Starship Health Technologies, LLC, full-time upon my graduation in December.
Diego Sosa  
*(TCG Capital, LLC / Miami, FL)*

Working as a Software Developer at TCG Capital, a firm in the financial industry, I was able to capitalize on my background in both Finance and Computer Science. I worked on the agile development of a web module that provides solutions to the Financial Analysts of the firm, making their process of analyzing potential clients’ financial statements more efficient. Most of the time, I worked in the client side development of this application using mainly AngularJS (a JavaScript client side framework) and Bootstrap (a CSS framework). With Angular, I was able to move a lot of the logic one would normally write on the server side to the browser, which would make it less intensive for the server when dealing with a lot of client requests. On the other hand, with Bootstrap I was able to give the application a modern and elegant look with very little work.

Although I was not developing one-hundred percent of the time, I found my internship very rewarding. Not only was I able to gain more experience as a developer, but I learned to be more proactive, organized, and self-motivated. Working for a small company and having a background in both computing and finance, I was able to find more efficient solutions to problems that others could not see being done. The more I learned about the company’s operations, the more ideas I had about making many of the processes more efficient with the use of computers.

Nevertheless, I learned to take the initiative to work on things that I knew would be better for the company as a whole without waiting for someone to always tell me what to do and how to get it done.

For those who want to develop, I recommend to know and understand the problem and then use computers as their friends to fix the problem. Finding a job is not so easy in such a competitive world, but knowing yourself and how you can use your skills to add value to the world is the best first step.

I am currently employed full-time as a Software Developer at TCG Capital, LLC.

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Patrick O’Leary  
*(roundCorner / Villanova, PA)*

While interning at roundCorner, I gained broad-based technical experience with a professional consulting organization. I focused on customer success in Salesforce, a rapidly growing software product.

I managed multiple reporting relationships representative of the matrixed and collaborative organizations and also directly interacted with executive management and staff. I was exposed to and operated business management, consulting, data migration, solution development, and customer success systems in relation to helping clients integrate the Salesforce database into their everyday business.
Sarah Cooney  
*(University of West Georgia / Carrollton, GA)*

I spent eight weeks this summer at the University of Georgia participating in an REU (research experience for undergraduates). These programs are held at colleges all over the country in different STEM fields and are sponsored by NSF (National Science Foundation). Myself and seven other math majors from around the country worked with two professors to do research in the areas of Graph Theory and Ramsey Theory on the Integers. We worked in small groups, with each person working on two teams.

In graph Theory, I worked on the problem of Super Edge Magic Total Labeling for ladder graphs where half the number of vertices is odd (the even case has been solved). My Ramsey Theory team worked on defining and exploring a new concept which we called Strong Accessibility that was defined to investigate the area between Largeness of Sets and Accessibility of Sets. On both of my problems, I had the opportunity to write programs to compute and analyze examples.

Seth Fields  
*(PJM Interconnection, Audubon, PA)*

Over the summer I had an internship at PJM Interconnection. PJM Interconnection is a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia.

At PJM, I worked for the Development and Integration Services Department. My main responsibilities were to help other developers with programming problems (aka Stories) on one of PJM’s web applications. I was also assigned some of my own stories to work on. I attended regular sprint meetings where we planned, reviewed, and closed different stories we worked on during sprints.

I gained a lot of insight on my career path as a computer science major. I learned the life of a developer and how to work effectively with a team of developers. I learned how to effectively manage the development of an application or project. Finally, I learned how to implement some new technologies that I had never seen before.
* On Saturday, November 5th, two teams travelled to Wilkes University to compete in the ACM National Intercollegiate Programming Contest. The following teams consisted of veterans and rookies and they look forward to participating next year. Congratulations and a big thank you to their Coordinator and Mentor, “Coach K”, Professor Mary Krueger! 

The Hawkettes: Sarah Cooney, Shelley Donaldson, Julie Osborne. 

The Hawks: Seth Fields, Karl Morris, Brendan Szefinski

* Congratulations to the following graduate students who were awarded Graduate Assistant positions for the Fall, 2016, semester: Jumanah Alshehri, Tianwei Dai, Elham Jaffar, Jason Meng, Sonia Parikh, and Tao Xie.

* Sarah Cooney, a double major in Mathematics & Computer Science, wrote a terrific article, entitled Small But Mighty, for the SJU Admissions Blog. Check it out here: https://sites.sju.edu/admissions/2016/.../10/small-but-mighty/.

* On Thursday, October 13th faculty, staff, and students welcomed the fall semester and celebrated Halloween.

* On November 10th, prior to Dr. Chang’s presentation, Ather Sheriff was presented with a CS Graduation Certificate and a medallion.

“Sometimes it is the people no one imagines anything of who do the things that no one can imagine”

~ Alan Turing
IN THE LOOP:
HURRICANE MATTHEW HITS COCOA BEACH

Dr. Suzan Köknar-Tezel and her husband, Ahmet, evacuated to the West Coast of Florida during Hurricane Matthew.

They returned home the Saturday after Matthew hit and found their condo received minimal damage. Suzan reports: “We had electricity in the master bath, office, and guest room, but no where else … after two days, the electric company started working on our area and we lost power for hours at a time. Cable and the internet took the longest to come back consistently (about four days). Our condo building does have some damage to the marina and sea wall, but we were luckier than the homes on either side of us.”

All in all, Suzan and Ahmet feel very lucky, “the hurricane Gods were with us big time. We were supposed to get a direct hit with a category 4 hurricane with 12 foot storm surge. But, Matthew dropped down to a category 3 earlier than predicted, it wobbled 20 miles east, it hit during low tide instead of high tide, and the moon was a quarter moon.” A combination of favorable conditions spared their town of Cocoa Beach.

On a joyful note, Suzan has started to play the Ukulele! She belongs to three Ukulele groups in Cocoa Beach and just started private lessons. As famous ukulele virtuoso and composer Jake Shimabukuro once said, “If everyone played the ukulele, the world would be a better place.”

"I am not afraid of storms, for I’m learning how to sail my ship." ~ Louisa May Alcott

FALL 2016 EVENTS

Thursday, September 22
Career Fair

Thursday, September 29
Internship Presentations

October
Cyber Security Awareness Month

Monday, October 11 - Tuesday, October 12
Fall Break

Thursday, October 13
Fall/Halloween Welcome Back Department Celebration

Thursday, October 20
Guest Speaker Glenn Brunette

Saturday, November 5
ACM Programming Contest (Wilkes University)

Thursday, November 10
Guest Speaker Dr. Wei Chang

November 23 - 28
Thanksgiving Break

December 14 - 20
Finals / Winter Break Begins

Tuesday, January 17
Classes Resume

EYE ON IT → Toyota’s Kirobo Mini

This tiny robot will be able to hold a conversation and react to situations with the correct emotions (i.e. anger, sadness, joy, etc.). This robot is a miniature version of an interactive robot “Kirobo”, who gained popularity after being sent to the international space station. Priced at around $400, the Kirobo Mini robot will be available in 2017.
Abstract

Technology has been woven into nearly every facet of our daily lives. With each passing year, the boundary between the physical world and cyberspace has continued to fade as everyday items have been infused with logic, power, and connectivity. Dubbed the “Internet of Things”, these devices have heralded a new age of innovation and capability, greatly expanding the “art of the possible”.

Unfortunately, the capabilities enabled by these technologies are not always positive, expected, or welcome. In this presentation, the benefits and risks of the “Internet of Things” will be discussed. Specific examples will highlight technological challenges, as well as risks to security and privacy. Lastly, recommendations will be offered that illustrate ways in which we can learn from past mistakes and build a better, more interconnected future.

Biography

Glenn Brunette is a Distinguished Security Architect within Oracle’s Global Product Security team where he directs cloud security assurance efforts. Previously, he has served as the Cybersecurity Chief for the Oracle Government, Higher Education, and Healthcare organization as well as the Chief Security Architect at Sun Microsystems.

Glenn is a Certified Information Systems Security Professional with over 25 years of cybersecurity experience. His security architectures and solutions have been incorporated into commercial products and used by companies and governments around the world. Glenn has been awarded two cybersecurity patents and has earned a M.S. (1999) and B.S. (1993) in Computer Science from St. Joseph’s University.
Abstract

We are entering a distributed computing era, where various decisions are individually made at each entity, based on the pervasive data from the other entities scattered all over the world. However, most distributed systems are vulnerable to Sybil attacks; by creating a large number of fake identities, adversary can introduce a considerable amount of falsehood opinions into a distributed system and subvert it. As a result, some entities may make unfair, or even false, decisions.

For instance, in some distributed systems, critical resources are assigned based on voting results. If an adversary holds a considerable number of fake identities, he can easily change the overall decision and unfairly gains more resources. It has been more than a decade since the first appearance of Sybil attack. In this presentation, Dr. Chang will systematically show the evolution of the Sybil attack and its defense techniques.

The “Sybil Attack” was named after the famous case-study of Sybil (Shirley Ardell Mason). “Sybil” was diagnosed with multiple personality disorder, which is now called dissociative identity disorder.
Glenn Brunette (B.S./1993, M.S./1999) accepted a new position as Director of Technology Compliance at Salesforce.com. Glenn will be leading a team focused on ensuring that Salesforce.com is able to meet the cybersecurity compliance requirements of Public Sector customers.

Chris Harrer (B.S./1985) was recently promoted to Program Manager of Stealth Security for Unisys Corporation https://unisyssecurity.com/unisys-stealth/. In his new role, he is responsible for setting the direction of the program as well as managing all releases/future content.

Sandeep Kumar Nangunori (M.S./2008) is employed as a Senior Database Engineer at Salesforce.com, located in Herndon, Virginia. He is part of the team that is building the cloud database. Salesforce builds and deploys highly available robust, resilient, secure, and supportable 24x7x365 solutions. Sandeep assists the Salesforce technology teams in performing Production Operation tasks. He also performs complex root cause analysis of problems and, subsequently, makes and implements recommendations to prevent future occurrences or customer impact. He contributes toward new and on-going technology projects in the areas of Scalability, Performance, and High Availability. Based on his experience, Sandeep has offered his advice for current students: “I would recommend that graduating students concentrate on things like Big Data, Cloud, and IOT technologies, as the market opportunity is big there.”

Patrick M. Ryan (B.S./1989, M.S./1991) has worked at IBM for 15 years. He is the client technical manager for the Federal architect team.

Lixia Zhou (M.S./2016) accepted a position as a Programmer/Analyst at Talksoft, a leading provider of reminder and messaging services in the healthcare industry. Lixia’s responsibilities include developing new functionality and enhancing systems using PHP, MySQL, Java, Spring Framework, and C#. She also troubleshoots and provides technical assistance to customers. Lixia reports that the friendly colleagues and flexible working schedule are the most attractive aspects of the job. Talksoft is located in Hamilton, NJ, in the renovated Ocean Spray Cranberries factory in Hamilton, NJ. Their loft-style design space has been featured in the media.

Please continue to keep us posted!
Send your updates to csci@sju.edu.