CCSE QUARTER 1 2016 NEWSLETTER

This newsletter is compiled as a reflection of the individuals reporting their accomplishments and activities during the quarter.

CCSE Faculty Work/Accomplishments:

Computer Science (CS) Department

CS – Selena (Jing) He

Active Research Grants:
- PI, Interdisciplinary Research Opportunity Program (IDROP) grant funding award, College of Science and Mathematics, Kennesaw State University, August, 2013 – August, 2016.
  Project description: An ever-increasing amount of work across the natural and social sciences involves attempts to understand complex networks of interacting agents (e.g., ecological, intra-cellular, social, business, telecommunication, and gene networks). Graph theory has provided a rigorous mathematical framework for analyzing such networks, and facilitated cross-talk between disciplines which has allowed insights from one system to advance the study of another. It is increasingly apparent, however, that conventional graph theory alone is ill-suited to study many of the important questions in each of these fields. Pervasive feedback and inter-dependencies inherent in complex adaptive systems require frameworks better able to capture interactive effects of multiple entities on one another and on the wider network. The proposed work expands each PI's research program to incorporate powerful tools for modeling complex adaptive networks (e.g., hyper-graphs) whose application to most fields thus far has been extremely limited. Working together to adapt these tools will allow each PI to ask compelling new questions in their study systems, and highlight new dimensions of interdisciplinary relevance for each PI's research.

Publications:

Student Projects:
- Internet-of-Things based Smart Classroom Environment:
  Graduate student: Amir Atabekov (System Design/Developer)
  Project description: The management of classrooms, halls, offices, and public spaces and the efficient use of these resources in any organization are challenging problems. With the rise of Internet of Things (IoT), the management of these resources can be automated. The smart classroom system will be based on a network of connected sensors embedded on the physical chairs to automatically collect information. All collected real-time data are stored in cloud, which can be visually displayed on a mobile app. Through analyzing the big sensing data, the manager can make intelligent decision.
- High school student intern project: Internet-of-Things Based Healthcare Monitoring Chair
  Student: Prit Shah (Wheeler Magnet High School)
Project Description: People spend a lot of time sitting on a chair every day. The objective of the project is to apply Internet-of-Things technology to the chair so that the chair can monitor the people’s health care status in real time. The monitored data are stored in the cloud, which can be accessed and analyzed by authorized users at anytime and anywhere.

Other Projects:
- Worked with Patrick Bobbie on March 31, 2016 to meet with Chattahoochee Technical College and discuss collaboration possibilities.
- Assisting with the Object-Oriented Owls (Women in CS) and attending monthly meetings.

CS – Dan Lo

Current grant:
- Collaborative Research: Enhancing Curriculum and Faculty Development on Information Assurance and Security through Real World Relevant Portable Laboratory
  - Period: 9/1/2014 - 8/31/2017
  - Funding source: NSF

Kennesaw State University (KSU), and Tennessee State University (TSU) are jointly developing a new information assurance and security (IAS) teaching methodology and expand the capacity in IAS education. Curricular materials based on a portable lab will be developed and integrated in teaching Computer Science (CS) or Information Technology (IT) courses at the partnered universities, and disseminated via summer student and faculty development workshops, webinars, and pre-conference workshops.

Student Projects:
- An undergraduate researcher supervised by Dan Lo submitted a paper to the ACM Technical Symposium on Computing Science Education:

CS – Kai Qian

Current NSF awards:
- NSF SFS grant award #1241651 (11/2012-10/2016) Co-PI: Collaborative Project: Capacity Building in Mobile Security Through Curriculum and Faculty Development
- NSF TUES #1244697 (09/2013-08/2016) Collaborative Research: Real World Relevant Security Labware for Mobile Threat Analysis and Protection Experience
- NSF SFS #1438858 (9/1/2014-8/31/2017) Collaborative Research: Enhancing Curriculum and Faculty development on Information Assurance and Security through Real World Relevant Portable Laboratory

CS – Ying Xie

Submitted Grant Proposals:

Other Projects:
• Ying Xie served on the editorial board of the Big Data Research Journal published by Elsevier (http://www.journals.elsevier.com/big-data-research/editorial-board)

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Information Technology (IT) Department

IT – Bob Brown

Other Projects:
• On April 1, Bob Brown joined KITES (Kids Interested in Technology, Engineering, and Science) to teach binary numbers to over 60 third, fourth, and fifth grade students from Scott Elementary School and Towns Elementary School.

IT – Richard Halstead-Nussloch

Publications:

Other Projects:
• Currently hosting a German exchange professional who is studying and interning in the US in an exchange program that is a partnership between the US and German governments.
• Serves on the *eJournal of Public Affairs* editorial board, which met in January 2-16 to refine editorial and technical direction for the journal.

• Throughout the quarter met with a variety of business and government leaders to discuss the role of KSU and CCSE in workforce development and research and development. Primary workforce needs have been identified in the areas of computer programming, healthcare IT, and information security. Primary research and development needs include automation of data collection and analysis, applications that use geospatial data, and self-driving machines.

• Serves on the Georgia Governor’s Teaching Fellows Board of Advisors, which met in February 2016 to set policy and direction for 2016 activities.

• During the *Applied Ergonomics Conference*, March 21-24, Orlando, FL, I fulfilled duties as the Poster Presentation Chair. In doing so I met and had significant discussions with a wide range of university and professional colleagues working in computing’s HCI (human computer interaction) area including international colleagues, company directors, grad students, and a program director from the NSF.

**IT – Lei Li**

**Current Research:**

- “Transformations-At-Scale for Department-Wide Database Related Courses,” Co-PI (with Lei Li, Svetlana Peltsverger, Rebecca Rutherfoord, Zhigang Li, and Nancy Colyar). Affordable Learning Georgia Textbook Transformation Grants Round 2 (2015-2016), $30,800.00 (granted on 1/23/2016-5/2016; award rate 34.6% (27/78), work-in-progress).

**Publications:**


**IT – Svetlana Peltsverger**

**Current Research:**

- Affordable Learning Textbook Transformation Grant Co-PI $30,000, January 2015 - May 2016
  The USG grant focuses on reducing the costs of textbooks for all Database courses offered by IT department.

**Publications:**


**Other Projects:**


**IT – Susan VandeVen**
Other Projects:

- The Marietta Campus of KSU hosted a High School Regional Science Olympiad on February 27. Georgia Science Olympiad Executive Committee members Lance Crimm (EE), Luminda Kuliari (Physics) and Susan VandeVen (CCSE/IT) planned and managed this all day event for 24 teams of 15 high school students competing in 23 STEM events such as Air Trajectory, Bridge Building, Chemistry Lab, Electric Vehicle, Experimental Design, Game ON, Green Generation, Robot Arm, Write it Do it, and more. Many KSU faculty including our own Chi Zhang, Ashley McClure, Barbara McNamara, Christine Bryant and Kirk Inman contributed to this successful event that brought 350+ students, parents, and coaches to our campus.

IT – Ming Yang

Current Research:

Publications:

IT - Jack Zheng

Current Research:
- “Transformations-At-Scale for Department-Wide Database Related Courses,” Co-PI (with Lei Li, Svetlana Pelsverger, Becky Rutherford, Zhigang Li, and Nancy Colyar). Affordable Learning Georgia Textbook Transformation Grants Round 2 (2015-2016), $30,800.00 (granted on 1/23/2016-5/2016; award rate 34.6% (27/78), work-in-progress).

Publications:

Software Engineering and Game Design (SWEGD) Department

SWEGD – Allan Fowler

Submitted Grant Proposals:
・ Submitted an NSF #15-593 grant proposal for the Advancing Informal STEM Learning (AISL), on the informal learning that takes place in Game Jams on 11/04/2015.

Publications:

Student Projects:
■ Three undergraduate students submitted a paper on the game that was created at the Global Game Jam 2016:

Other Projects:
・ Co-Chair for the International Conference of Game Jams, Hackathons, and Game Creation Events; Berkeley, CA.
・ Program Committee for the International Conference of Game Jams, Hackathons, and Game Creation Events; Berkeley, CA.
・ Program Committee for the Immersive Learning Research Network (iLRN) Conference 2016; Santa Barbara, CA.
・ Program Committee for the Interactive Entertainment Conference (IE 2016); Canberra, Australia.
・ Program Committee for the International Conference on Game Based Learning (2016).

SWEGD – Paola Spoletini

Current Research:
■ Awarded a FY 16 OVPR Pilot/Seed Grant (of $9,733) to attract external funding for the project “Tiresias.”

Publications:

CCSE In the News:
➢ Gaming professor Dr. Rongkai Guo was featured in the KSU News for his research on virtual reality for the visually impaired. Read more about his research at: http://web.kennesaw.edu/news/stories/virtual-reality-visualy-impaired

➢ Students from the College of Computing and Software Engineering in collaboration with students from the Southern Polytechnic College of Engineering and Engineering Technology created a company called TreeCabin and have been working on developing a Netflix-like streaming service for textbooks.
The aim is to cut costs and increase convenience for students. The feature by the Marietta Daily Journal can be found at: http://www.mdjonline.com/news/student-aims-to-create-netflix-of-textbooks/article_c84f122a-fc68-11e5-a3fa-d345626f33e7.html

Events in the College of Computing and Software Engineering:

**Spring 2016 Computing Showcase:**

CCSE held its first college-wide Computing Showcase on April 26th 2016. Both undergraduate and graduate students from every major in the CCSE displayed poster presentations showcasing their current research. Industry professionals from the Atlanta area were invited to judge over 75 presentations to award prizes for 1st, 2nd, and 3rd place in four different categories, including: Best Game, Best Capstone/Senior Project, Best Undergraduate Research and High School Internship, and Best Graduate Research and Thesis.

The winners were as follows:

**Games**
1st place: Tactics & Tarrasque, Jonathan Davis
2nd place: My Mom’s Road Rage – Ryan Murray
3rd place: HeartAttack – Lawson Lamb & Oluwakayode Akingbade

**Capstone/Senior Projects**
1st place: UScheduler – Andres Montoya, Edward Mwangi, Peter Southwick, Matthew Wohlbach, Jacob Diaz and Matt Bush
2nd place: iLock – Omar Damaj, Michael Gwyn, Danielle Martin, Sam Bryant and Jason Turner
3rd place: Applications Themer – Caleb Hardin and Kevin Ball

**Undergraduate Research and High School Internships**
1st place: Empowering Requirements Elicitations Interviews with Vocal and Biofeedback Analysis – Casey Brock and Rahat Shahwar
2nd place: Preventing Insider Exfiltration Attacks with YouTube Videos with DCT Transforms – Christopher Francis-Christie
3rd place: Defensive Programming Methodology – Noah Cole, Wheeler High School internship

**Graduate Research and Thesis**
1st place: Detection of Stage One of Diabetic Retinopathy Based on CNN Models – Pablo Fernando Ordonez and Carlos Andres Cepeda
2nd place: Internet of Things-Based Smart Classroom Environment – Amir Atabekov

You can find more information and the story written by KSU News here: https://web.kennesaw.edu/news/stories/industry-professionals-impressed-computing-talent-kennesaw-state

**Spring 2016 CCSE Graduate Reception:**

CCSE held its 11th annual graduation ceremony, with students from Computer Science, Information Technology, and Software Engineering and Game Development in attendance. The ceremony was led by Dean E.K. Park, who gave an introductory speech with a few key pieces of advice for the recent graduates.

Among other things, Dean Park thanked all graduates for their dedication, hard work, and perseverance in finishing their degrees, and for the excellent job done. Dr. Park also thanked their families, friends, faculty, and staff for their patience, support, and sacrifices in helping graduates through their studies. Dean Park emphasized that “learning does not stop today.” Graduates need to master lifelong learning in order to be successful in their career. The CCSE has laid a solid foundation for graduates, and Dean wished graduates the best in their pursuit of excellence.

After Dr. Park’s speech, awards were presented to an outstanding undergraduate and graduate student from each CCSE department. These students were hand-picked by the faculty of their respective departments. Dr. Frank Tsui came forth to present awards for the CS department to Felipe Spinolo (undergraduate) and Alenazi Mounifah (graduate). Dr. Hisham Haddad came forth to present the awards for the IT department to Caleb Roberts (undergraduate) and Srija Surapaneni (graduate). Dr. Sheryl Duggins came forth to present the awards for the SWEGD department to Darren O’Neale (undergraduate CGDD), Kelly Fernandez (undergraduate SE), and Sepideh Carlsen (graduate). Finally Dr. Park came forth to present the CCSE Service Award to Joseph Brown.
Following the presentation of awards Mr. Flavio Villanustre, VP of Technology at LexisNexis HPCC Systems, came forward to give his keynote speech. Mr. Villanustre talked about how the only constant in Computer Science and Software Engineering is change, as the field rapidly evolves to develop new technologies and algorithms. He pointed out that this is not the end of the road when it comes to graduates’ learning journey, but just a transition. The key goal of their academic years should have been to “learn how to learn”, as this is what will drive success for the rest of their careers.

The evening was concluded with the raffle of several items, with the grand prize being a Kindle Fire (all provided by LexisNexis HPCC Systems).

The College of Computing and Software Engineering would like to extend a special thanks to LexisNexis for their continued support throughout the years, and looks forward to collaborating with them in the future. To show their value of the relationship with KSU, LexisNexis sponsored the graduate reception. In addition, to support the continued learning of the students, they gave all graduates free access to their Massive Open Online Courses (MOOC) which will help add big data analysis using the open source HPCC Systems and ECL language to their skillset.

**CCSE Clubs/Groups:**

**ACM Student Chapter**
Supported by Department of Computer Science Dr. Sarah North, Faculty Advisor
Marcus Randall, Student President; E-mail: acm@kennesaw.edu; URL: http://acm.kennesaw.edu

**ACM Student Chapter Activities**
The ACM Student Chapter is dedicated in “community engagement” to encapsulate the various ways in which we connect with the community. This includes any significant connection between our fellow peers, faculty, staff, alumni, and retirees with the larger community through engaged teaching and learning, volunteering, outreach, community service or other means.
Currently, our ACM student Chapter is involved in the following community engagement endeavors:

- Website development for Freelance Fine Artist who specializes in pet art and landscapes. Jacob Davidson, Website administrator developer for the ACM Student Chapter.
- State Farm Insurance Company in Dunwoody, Georgia, provides IT analyst opportunities to our students. March Randall, President of the ACM Student Chapter.

Spring 2016

1. **Town Hall Meeting**, hosted by Kennesaw State, ACM Student Chapter, meeting of the semester which student discuss about semester activities and event planning on Wednesday, January 27th, at 3:00pm, J202.

2. **Student Event - Greek Heritage Night** - A long standing tradition at SPSU. There will be a movie, the geek world, gaming and socialize with your fellow CCSE students. **Wednesday February, 3rd, 7:30pm-10:00pm, Atrium, J-202. acm@kennesaw.edu**

3. **Invited Recruiter – State Farm Company** provided information and recruiting session for KSU students at Kennesaw and Marietta campus on **Monday, February 15th 2016**.

4. **Invited Recruiter - Central for Intelligence Agency (CIA)** recruit Kennesaw State University students. There was special learning opportunity for student at Kennesaw and Marietta Campus. This opportunity was based around demystifying what it is actually like to work for the CIA. The session was hosted one-to-one and group information sessions. **February 29th- March 1st, 2016.**

5. **3rd Annual Kennesaw Programming Competition (KPC)**; hosted by ACM student at Kennesaw State University. KPC is a programming competition that prepare students for national competitions and allows students to compete with other Atlanta area schools. **Saturday, March 26, 2016, 9:00am-7:00pm. acm@kennesaw.edu**
**AITP Student Chapter:**
Supported by Department of Information Technology, Dawn Tatum, Faculty Advisor
Felipe Spinolo, Student President, E-mail: fspinolo@students.kennesaw.edu.
**AITP Happenings...Geeks Giving Back!**

**April 2016**
- Association of IT Professionals National Collegiate Conference:
  Kennesaw State University made an impact at the Association of IT Professionals (AITP) National Collegiate Conference (NCC) this year April 7-10th. The KSU AITP student chapter sent 6 students to compete in 7 of the 16 competitions at the national level. The students who attended the NCC are Lianna Cummings, Jonathan Jones, Richard Rhodd, Caleb Roberts, Shelby Silcox and Diamonte Thomas. All of the students competed in at least 2 competitions each. The competitions the students participated in were the T-Shirt Design contest, Enterprise Systems, Business Analytics, Microsoft Office Solutions, Network Design, PC Troubleshooting, and Security. KSU did very well in all the competitions, bringing home Honorable Mention, 4th Place Security (Richard Rhodd out of 80 teams) and coming close in PC Troubleshooting (Caleb Roberts – 26th out of 120 teams). All our students took the opportunity to speak with industry professionals from Progressive, State Farm and USAA as well as network with other students from across the country.
**GDC Student Chapter**

Supported by Department of Software Engineering and Game Development, Faculty Advisor, Dr. Jeff Chastine.

JANUARY:

- SMITE World Championships 2016 - The GDDC continues to build relationships with local and global Game Studios involved in the Video Game Industry. Since last year’s (2015) first ever World Championship for Hi-Rez Studio’s flagship game, SMITE, the club has provided volunteers to help run the event. It is a huge event that took place both times at the Cobb Performing Arts Centre. All the teams from around the world compete in an E-Sports tournament to see who the champions of SMITE really are.
- Global Game Jam 2016 - The GDDC is the “go to” student organization to help the College of Computing and Software Engineering to help host and run the event. The club’s members offer to volunteer their time during that weekend to help welcome the participants, set-up meals to eat, set-up the equipment for the teams, and provide assistance whenever possible. The GDDC has been doing this for all Game Jams hosted by our university since 2010 at SPSU and continues through to present time at KSU.

FEBRUARY:

- Valentine’s Day Party - The GDDC hosted its first ever Valentine’s Day Party where KSU students and club members got to enjoy themselves for a fun day. Focusing on Valentine’s as a whole, we set-up a cooperative gaming session where players are matched with other players who they don’t know and play games together. We called it, “Speed Gaming” instead of speed dating.
- Character Design Meeting - The GDDC held a meeting where members evaluate what makes great video game characters. In addition we identify what makes good and bad characters. Toward the end of the meeting, students got into group and made a character from scratch.
- Career Networking Event - We held a semi-professional panel where representatives from the video game industry came out and talked about networking. We had Burton Posey, Action Figure Games, and Havana Nguyen, UX and UI designer, appear at our panel. The GDDC’s President, JarekQ Aloisio, and Vice President, Josh Williams, were on the panel as moderators and speakers as well. After the panel, students had an opportunity to practice their networking skills with each other.

MARCH:

- Officer Nominations and Voting - The GDDC took two separate meetings to determine who would be the next leaders of our organization to fill in all the officer positions. The first meeting was nominations where the club members got to voice their opinions on who they think would make a good leader. After the meeting, members had two weeks to decide on the candidates we all chose. Then the second meeting took place where all candidates gave their speeches to explain why members should vote for them, and then voting took place. At the end of this meeting, the votes were tallied and the new GDDC officers were announced: President- Josh Williams, Vice President- Tim Oltjenbruns, Treasurer- Shelby Bubier, Secretary- Anthony Onukwuli, Event Coordinator- Jacob Hekman, and Social Media Manager- Richard Lago.
- World Building Meeting - At this development meeting, the officers and members listed out different worlds from different video games and made lists of good examples of world building and
bad examples. After this activity, we paired up into small groups and created our own worlds and explained why we thought we used good world design. Some made worlds for the characters we made at the character meeting.

APRIL:

- **League of Legends Tournament** - The GDDC hosted our annual tournament to show our support for Riot Games. Unlike most tournaments that are thrown for this game, we do it as game designers and developers to represent that we can craft and makes games. We do this event to continue to build on our relationship with Riot so we can get support such as guest speakers or representatives to talk about their studio.

- **Board Game Jam** - This event has been begged for by not only students but professors alike. Although it was the first one ever, our turnout was low due to the time we held the event. However, for those that came out and participated, they very much enjoyed the wide variety of supplies provided to make any kind of non-digital game. The students who participated received credit for their CGDD 2002 course for making a board game. This coming year, it is in the works to tie it in with Georgia Game Jam for Fall 2016 at our university KSU.

- **Mini-Studio Expo** - The GDDC has a program built within its operations to encourage students to create games outside of class. These game can either be non-digital or digital games. We set-up students who wish to participate in a year-long program in groups so the member get an experience as they would see in an Indie Game Studio. At this event, it provides an opportunity to showcase what they have accomplished over the academic year AND also provide an opportunity for other students from CCSE and CoTA to show off their game design and development work, whether it is code snippets, concept art, prototypes or even full working games.

- **End of the Year Party 2016** - The GDDC holds its annual EOTY Party at the end of spring semester to celebrate a successful year of school. It is a way for students and members to enjoy playing games with each other. What is unique about this year’s party is we held our first ever, Wall of Smash Championship. Wall of Smash is a part of our Throwdown Thursday program where students can come bi-weekly to the Game Lab on Thursday nights and play Super Smash Bros. and other recreational games. Each wall of smash event featured each of the different games over the years of SSB. At the EOTY Party, with all the winners from the throwdowns, we held a round-robin and the grand champion won a trophy that was custom made by our treasurer, Shelby Bubier.

**SRAG (Software Research Advancement Group Meeting)**

SRAG is a research group founded by a group of professors to promote research among our students. The group has grown over the year and it now includes 7 faculty members (Sheryl Duggins, Rongkai Guo, Lei Li, Dan Lo, Paola Spoletini, Frank Tsui, Chi Zhang), 10-15 undergraduate students and few graduate students.

- Students attended the NCUR and participated in the university undergraduate research event organized by CETL
- A member of the SRAG won in the ‘Best Undergraduate Research’ category at the CCSE’s Computing Showcase.

**Object-Oriented Owls (Women in CS)**
The Object-Oriented Owls is an all-female group started by Dr. Amber Wagner, and supported by Dr. Sarah North and Dr. Selena He.

**April 2016:**
- A Gift from Google:
  The Object-Oriented Owls received a $10,000.00 gift from Google (the Google igniteCS program) to purchase equipment for a summer camp with Girls, Inc. of Atlanta.