

CS KICKSTART

SEPTEMBER 4, 2020

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WELCOME LETTER FROM THE DEAN'S OFFICE



Dr. David Silva

Dear all,
Welcome back to the College of Sciences. And if you are joining us for the first time, welcome to UTSA! No matter where you are based this semester, you are part of the Roadrunner community.

As we embark on a new semester, faculty and staff are working hard to provide a positive virtual learning experience. I would like to take this opportunity to thank each of you for your efforts. I am grateful for all that you do.

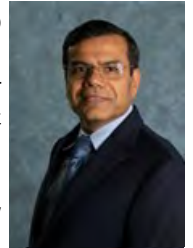
Despite the difficulties COVID-19 brought to our college, there are great things in our future. We recently launched the M.S. in Cybersecurity Science program, which will provide students with a comprehensive technical and scientific understanding of cybersecurity today. We also now offer a B.A. in Computer Science. Students who complete this degree will earn a teaching certification that enables them to teach computer science to middle and high school students.

The research achievements and fantastic collaborations coming out of the Department of Computer Science continue to impress me. I have no doubt that you will keep making great strides in the areas of AI, software engineering, machine learning, and more.

This semester is certainly unique, and I know we are all craving a sense of normalcy. As we look towards the next few months, my greatest priority remains the health and safety of you and your families. I encourage you to reach out for help if you need it—we are all in this together.

David Silva, Ph.D.
Dean, College of Sciences

WELCOME LETTER FROM THE DEPARTMENT CHAIR



Dr. Sushil K. Prasad

Welcome back to a new Fall 2020 semester! With growing annual enrollment of 10-15%, in spring our department hired three Assistant Professors in Practice, including Dr. Anandi Dutta, Dr. Heena Rathore, and Dr. Qi Lu. This Fall we hired two new tenured-tack/tenured faculty, Professor Dr. Sumit Jha and Assistant Professor Dr. Rocky Slavin. We also said goodbye to Professor Larry Clark, a distinguished Lecturer, exemplary in teaching and service.

Despite COVID-19 challenges, we had a successful summer semester utilizing online courses, with enrollment increasing by 28%! This Fall will have all CS classes online, most courses asynchronous-hybrid, with at least one weekly interactive session for students in each course. All our virtual CS computer labs and main office resources are available with live help in near real time through remote technology and well designed resource directory.

The department is launching a Broadening Participation Initiative to grow enrollment and graduation among women and URM by 10% over 5 years, and is ramping up its Student Success Initiative.

The new School of Data Science (SDS) is shaping up and the new downtown building estimated for completion by 2023. CS will be the main pillar of the SDS community, launching two online Data Science certificate courses for non-majors in Fall 2020.

We have had a highly successful year for research enterprise with a range of external grants, including Dr. Jadhliwala's CAREER grant—the 9th homegrown CAREER award in the department, my own \$700K Cybertraining grant, among other recent notable NSF grants led by Dr. John Quarles, Dr. Xiaoyin Wang, and Dr. Timothy Yuen. This will be an exciting year as we move forward and grow.

Sushil K. Prasad, Ph.D.
Chair, Department of Computer Science

UTSA COMPUTER SCIENCE WELCOMES NEW PROFESSOR SUMIT JHA



The UTSA Department of Computer Science is excited to welcome its newest tenured professor, Dr. Sumit K. Jha,.

Jha was formerly the computer science director of the FinTech program and an Associate Professor of Computer Science at the University of Central Florida (UCF), Orlando. Jha joined the University of Central Florida in 2010 after receiving his Ph.D. in Computer Science at Carnegie Mellon University. Before joining Carnegie Mellon, he graduated with Bachelors of

Technology with honors in Computer Science and Engineering from the Indian Institute of Technology Kharagpur in 2004.

Jha was awarded the prestigious Air Force Young Investigator Award

in 2016 and his research has led to four Best Paper awards. Jha is the lead PI on a \$1M National Science Foundation project and won a \$1M DARPA project on high-assurance AI. He also won an award from the Office of Naval Research under the Science of AI program.

Leveraging his graduate training in logic, formal methods and continuous mathematics, Jha plans to establish a teaching and research enterprise at UTSA that focuses on the theory of artificial intelligence and the foundations of quantum information sciences.

In terms of education, Jha hopes to create new undergraduate and graduate courses in quantum computing and in the theory of AI. Jha intends to work closely with the UTSA faculty community to further strengthen well-respected research collaborations with partners in government and industry through joint publications and research support.

PROFESSOR LARRY CLARK RETIRES AFTER 16 YEARS OF UNIVERSITY SERVICE



A UTSA Alumni ('78, M.S. '80), Clark taught evening classes in introductory programming and database management for 11 years on a part time basis. Clark also worked for National Data Corporation followed by USAA until he joined the UTSA Computer Science faculty full-time in 2015. As a Lecturer III of Computer Science, Clark spearheaded career development sessions for computer science students and was a proponent of student success initiatives.

His passion for teaching and dedication to helping UTSA students be more successful can be seen throughout the different services he provided inside and outside the classroom. Utilizing his industry experience, Clark was an effective teacher, mentor, and student organization advocate. Clark managed the hiring and scheduling of CS tutors, designed training modules and practice exercise sessions,

and was a pivotal character in the creation of The Association of Computing Machinery (ACM) student chapter. ACM is a full-fledge student organization with hundreds of members and several subsections, each focused on student success, career development, technical hands-on workshops, social events, and competitions.

Additionally, it was Clark who initiated and led the CS Career Development series, which provides CS students the tools and practice needed to prepare for how to search, interview, and get a job. He hosted resume writing workshops, mock interviews with industry representatives, helped students explore what they want in a career, and how to approach employers effectively at job fairs.

The most influential committee Clark participated in was the Curriculum Committee. He worked to standardize core course material and reduce redundancy in material. As technology changes, Clark pushed for updated course material and pedagogy to better prepare students for the job market.

COMPUTER SCIENCE DOCTORAL GRADUATES 2019-2020

The following eight students were awarded doctoral degrees from the UTSA Department of Computer Science in AY 2019-2020.

Jin Han (November 2019)

Dissertation: Enhance Security in Cloud Computing Through Virtual Machine Placement. Supervising Professor- Dr. Ravi Sandhu

Xue Qin (April 2020)

Dissertation: Understanding User Interface for Intelligent Software Analysis and Exploration. Supervising Professor- Dr. Xiaoyin Wang

Foyzul Hassan (April 2020)

Dissertation: Tackling Build Failures in Continuous Integration. Supervising Professor- Dr. Palden Lama

Brita Munsinger (May 2020)

Dissertation: The Usability of Interaction Methods in Augmented Reality. Supervising Professor- Dr. John Quarles

Raphael Costa (July 2020)

Dissertation: Aquatic Virtual Reality: Feasibility to Application. Supervising Professor- Dr. John Quarles

John Heaps (July 2020)

Dissertation: Code Element Vector Representations Through the Application of Natural Language Processing Techniques for Automation of Software Privacy Analysis. Supervising Professor- Dr. Jianwei Niu

Olumide Kayode (July 2020)

Dissertation: Machine Learning Approaches to Improve Security and Performance Monitoring of IoT Devices. Supervising Professor- Dr. Ali Tosun

Abdullah Al-Alaj (July 2020)

Dissertation: Role Based Access Control for Software Defined Networking: Formal Models and Implementation. Supervising Professor- Dr. Ravi Sandhu

DR. XIAYOIN WANG RECEIVES MULTIPLE NSF GRANTS



Xiaoyin Wang, associate professor of Computer Science, has received two grant awards this summer 2020 from the National Science Foundation (NSF).

The first is a CCRI: Planning: Collaborative proposal in partnership with George Mason University as a two year grant for the amount of \$29,596. This project encompasses planning activities to construct a shared community infrastructure for conducting user studies of developers. Planning activities will be conducted to gather community input to better understand the nature of the problem

and obtain feedback on ways in which a future community infrastructure for conducting studies might reduce the barriers researchers face. Community feedback will be obtained on potential configurable components addressing key barriers. A survey and interviews of software engineering and programming languages researchers will be conducted to understand the barriers researchers face and how infrastructure might reduce these barriers.

The second grant award is an SHF: Small: Collaborative proposal in partnership with Virginia Polytechnic Institute and State University as a three year grant for the amount of \$249,923. In this project, the PIs are going to answer the research question: whether and how existing GUI tests can be reused in automatic GUI testing with necessary adaptation. In particular, the investigators will work on the generation of GUI-code embeddings to represent the semantics of GUI views and develop novel GUI-view mapping techniques to map GUI views among different applications. The investigators will also study how input-value constraints and event-sequence constraints in existing GUI tests can be extracted as domain knowledge, how such knowledge can be translated across platform and application boundaries, as well as how the translated knowledge can be incorporated into the automatic GUI-test generation process of the target application. The findings of this project are intended to shed light on the more general problem of reusing and migrating any test cases such as unit tests and integration tests, as well as the solution to the open problem of creating meaningful test oracles.

FEATURED PHOTO: NEW SCIENCE AND ENGINEERING BUILDING OPEN FOR FALL 2020



The newly unveiled SEB will serve as a hub for Roadrunners with science, engineering and technology interests. New features such as open collaborative study areas, meeting space, a Makerspace design studio, a machine shop, a 3D printing room, and other state-of-the-art equipment will be available. The SEB will also be the new home of the COS Student Success Center and the UTSA Brain Health Consortium.

RESEARCHER BUILDS SOLUTION TO WORK-FROM-HOME CLOUD-COMPUTING “STORMS”

Reprinted from UTSA Today



The outbreak of COVID-19 pushed rapid deployment of the work-from-home movement. Azure Cloud Computing saw a 775% increase in cloud usage in social-distanced areas, while Amazon Web Services experienced 33% growth in the first quarter of this year alone.

As more companies migrate their operations to a virtual world, though, cloud environments will experience additional service disruptions. Now, a computer science researcher at UTSA has helped develop Orchestra, an algorithm that keeps up with the demand of cloud computing to reduce spikes in such resource “storms.”

“Since a lot of our jobs are now moved online and rely on the cloud to operate, the data center systems definitely have more spikes in resource demands,” says Wei Wang, an assistant professor in UTSA’s Department of Computer Science, who worked on the project with researchers at the University of Georgia, University of Virginia and TJ IBM Watson Research Center.

Orchestra mitigates what is known as resource surges, in which demands for CPU and memory to run foreground services, such as email or video meetings, could interfere with a company’s critical background applications, such as virus detection programs or backups.

“The algorithm directs when and how long the foreground or background services should run so that these services can coordinate their efforts and resource demands to execute smoothly under a resource storm, much like the conductor in an orchestra directs the instruments to form a symphony,” added Wang.

The benefit of Orchestra is that it operates with little need for IT resources and can respond dynamically to workloads in virtual machines. So if you help run a company such as Netflix or a telecommuter logs into your company’s email or shared drives, there is the increased risk that business interruption will occur.

The reason is an added number of employees connect from home,

overwhelming the cloud and resulting in uneven services to end users. Netflix experienced an outage for an hour in March in America and Europe. Although the issue was restored, other services that run only on the cloud, such as health care systems, could be severely impacted.

The Orchestra mitigation system takes an online approach using lightweight monitoring, which requires minimal amount of time and effort from IT personnel to install, deploy, manage and keep an eye on the technology. The algorithm also creates performance-based models for various cloud applications on the fly, so it responds in real time and constantly adjusts the cloud resources between foreground and background applications.

Researchers evaluated the performance of Orchestra on the Amazon Elastic Compute Cloud with a range of cloud usage requirements. The algorithms successfully guaranteed that foreground applications performed at all times. Moreover, Orchestra maintained the background applications, such as big data management systems, by minimizing company costs that the organization could incur for not properly allocating cloud services.

“This solution is agnostic. It can be used on other on-demand cloud computing platforms other than Amazon. So if you are a company that relies on virtual networks to do work, regardless of what cloud service you use, Orchestra can be applied,” said Wang.

Many organizations have only so much capacity to operate on their own network infrastructures. It’s this reason that these cloud platforms offer the alternative to migrate many operations to a virtual environment.

The cloud computing industry already serves close to 6,000 companies on Amazon’s elastic computing platform, including popular services such as Airbnb and Uber. Many health care organizations rely on cloud computing to maintain electronic health records, communicate with patients and even reduce operating costs.

“Orchestra offers an immediate solution,” said Wang. “More services are cloud-based and we need to keep businesses running. However, we shouldn’t have to compromise allocating the cloud to conduct data backups at the expense of not running malware detection programs.”

Wang collaborated with In Kee Kim at the University of Georgia, Marty Humphrey at the University of Virginia and Jinho Hwang at the IBM TJ Watson Research Center. The Orchestra algorithm will be published in a forthcoming issue of the journal IEEE Transactions on Cloud Computing.

For more information on the
Large-scale System Optimization Research Lab (LASOR)
and Dr. Wang’s latest research projects,
visit <http://www.cs.utsa.edu/~wwang/>

NEW OPEN-SOURCE SOFTWARE AIMS TO REDUCE CYBERSICKNESS IN VR USE

Reprinted from UTSA Today



Cybersickness, or motion sickness during the use of virtual reality, can be a major roadblock to the development and adoption of augmented and virtual reality technology. Now researchers at UTSA have built GingerVR, the first open-source Unity software tool kit that allows developers to use proven techniques and innovative solutions against cybersickness in future extended reality environments.

“GingerVR can be applied to any Unity application, be it a game, enterprise application or job training,” said John Quarles, an associate professor in the Department of Computer Science who along with Ph.D. student Samuel Ang developed the tool kit.

XR is a catchall phrase for the next-level digital content that tech companies like Microsoft, Samsung, Apple, Google and Facebook deploy in smart phones and, in some cases, directly onto users’ faces. Within the gaming industry, extended reality is seen as the third pillar of entertainment.

Although Unity leads in the AR and VR game development sector, it has shifted toward business-to-business applications. Companies such as Unity plan to move beyond gaming to develop applications for architecture, engineering and construction use. A survey by the firm Forrester Consulting has shown that one in two of companies in these industries plan to incorporate extended reality within the next two years.

It’s an accelerated transition from the currently reported 19% adoption rate among firms. This means that the future workforce will have to learn quickly how to navigate these XR environments, where the virtual seamlessly blends with the real and vice versa.

“Cybersickness is a threat to the overall user acceptance of VR, which has a potentially huge impact on the VR industry. The negative symptoms experienced by a user can decrease human performance, limit learning and hinder decision making,” said Quarles. “It has been a problem in VR since the creation of the technology and is still not totally understood as to why it occurs and in whom.”

The percentage of individuals who suffer from cybersickness side effects is hard to pinpoint. According to Quarles, the research literature indicates that more than half of users experience symptoms but with a wide range of severity.

“Some users can habituate over time, while others could just put on a headset and have to pull it off. They just can’t handle it,” said Quarles. “We just don’t know why there are those individual differences. Our goal is to make the technology available to the widest possible audience,” he added.

Ginger VR, was named after the plant which is known to be an antidote for nausea—one of the classic symptoms of cybersickness. Other negative effects of these new environments include disorientation or fatigue.

Recently the AR/VR industry led by Unity, Google, Microsoft and other major players in the space created a consortium known as OpenXR. The foundation focuses on making AR/VR software to agree on a general framework and integrate any headset without having to write new code across platforms. Yet, according to Quarles, OpenXR doesn’t necessarily address the cybersickness gap, which GingerVR does meet.

The software tool kit implements eight cybersickness reduction techniques in Unity. These solutions are packaged in an open-source repository along with tutorials for ease of integration. As a result, these techniques are now simple to add and don’t depend on other software packages outside of what already comes with a default Unity project.

Researchers from around the world are often creating new reduction techniques, which can easily be integrated into GingerVR. Quarles along with Ang is currently working on releasing an integrated automated, real-time cybersickness detection, prediction and reduction framework on the GingerVR toolkit.

“We hope that this package will serve as a shortcut to researchers looking to utilize these techniques and develop a better understanding of why they are effective,” said Quarles. “In the future we hope to update this Unity package with additional cybersickness reduction techniques as they appear in the literature and improve existing assets based on user feedback.”

Professor Quarles’ previous work on cybersickness has been supported by Intel. The Ginger VR software tool kit was funded by the National Science Foundation and presented at the 2020 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops.

For more information on the
San Antonio Virtual Environments (SAVE) Lab
and Dr. Quarles’ latest research projects,
visit <http://cs.utsa.edu/~jpg>

CS DEPARTMENT RECENT GRANTS AND AWARD FUNDS

See Page 3 for the featured spotlight article on Dr. Xiaoyin Wang's two recent NSF grant awards.

T2: Towards Statistical and Adaptive Learning In Edges for Smart Health Applications In Connected Communities with Security and Privacy Enforcement

Sponsor: UTSA VPR Office

Amount: \$50,000

Start Date: 2020-05-01

End Date: 2020-04-30

PI: Dakai Zhu (Computer Science)

Co-PI: John Prevost (Engineering)

Co-PI: Keying Ye (COB MS & Statistics)

Co-PI: Amanda Fernandez (Computer Science)

Co-PI: Wei Wang (Computer Science)

Co-PI: Xiaoyin Wang (Computer Science)

Abstract Overview: Connected communities, powered with advanced technologies, are expected to have profound impacts on our daily lives... Our proposed framework would engage digitized information from IoT devices such as smart thermometers and motion sensors in conjunction with smart applications such as assistive living and pandemic flu status.

CCRI:Planning: ScooterLab: Development of a Programmable & Participatory e-Scooter Testbed to Enable CISE-focused Micromobility Research

Sponsor: National Science Foundation

Amount: \$100,000

Start Date: 2020-06-01

End Date: 2021-12-31

PI: Murtuja Jadhliwala (Computer Science)

Co-PI: Anindya Maiti (Institute of Cyber Security)

Co-PI: Sushil Prasad (Computer Science)

Co-PI: Greg Griffin (Architecture)

Abstract Overview: This research project will develop a large-scale, multi-user testbed of dock-less urban micromobility vehicles such as e-scooters on the UTSA campuses. By integrating a variety of custom sensing hardware with these vehicles and developing a suite of efficient sensing, data processing and user-support algorithms and software, this testbed will serve as a state-of-the-art crowd-sensing platform that will enable collection of highly precise contextual and mobility data for multidisciplinary uses.

Data Science and Engineering Curriculum Development (Task Order 2 under Master Research Agreement)

Sponsor: The MITRE Corporation

Amount: \$45,000

Start Date: 2020-06-01

End Date: 2020-09-30

PI: Jianwei Niu (Computer Science)

Co-PI: Wei Wang (Computer Science)

Co-PI: Timothy Yuen (COEHD)

Co-PI: Sam Silvestro (Computer Science)

Co-PI: Keying Ye (COB MS & Statistics)

Co-PI: Dawnlee Roberson (Computer Science)

Abstract Overview: The Data Science and Engineering bootcamp will serve MITRE employees who are interested in learning data science and big data as part of their professional development. The bootcamp will provide an in-depth training and investigation into the data science technology. The professionals will gain the foundational knowledge and skills in data science that can be applied in a variety of engineering domains.

Collaborative Research: CyberTraining: Implementation: Medium: Broadening Adoption of Parallel and Distributed Computing In Undergraduate Computer Science and Engineering Curricula

Sponsor: National Science Foundation

Amount: \$701,772

Start Date: 2020-10-15

End Date: 2023-10-14

PI: Sushil Prasad

Abstract Overview: In this era of pervasive multicores, GPUs, cloud services, big data, machine learning, and the Internet of Things, there is a critical need for incorporating parallel and distributed computing (PDC) into undergraduate computing curricula for preparing the future scientific research and development workforce for innovating with and utilizing advanced cyberinfrastructure. The workshops will train competitively selected, diverse cohorts of instructors of early CS and CE courses based on the second version of the TCPP curriculum and the new CE-focused curriculum. Training will result in rigorous classroom-based evaluations of TCPP curriculum, new course and curriculum exemplars showcasing novel approaches to infusing PDC into existing curricula in diverse institutional contexts, and publications.

CHS:Small:Enabling Accessibility of Virtual Reality for Persons with Balance Impairments

Sponsor: National Science Foundation

Amount: \$497,121

Start Date: 2020-07-01

End Date: 2023-06-30

PI: John Quarles (Computer Science)

Co-PI: Alberto Cordova (COEHD)

Abstract Overview: Although consumer level virtual reality (VR) head mounted displays (HMDs) (e.g., HTC Vive) are affordable enough to benefit a much broader user base than ever before, these devices are not accessible for many persons with disabilities, such as persons with balance impairments (e.g., elderly persons, persons with multiple sclerosis, Parkinson's, or stroke). Currently, immersive VR applications, such as education, physical fitness, rehabilitation, and entertainment, are not accessible to users with balance impairments. To address this need, the PI proposes to use multimodal feedback techniques from assistive technology literature to improve balance in VR. Although these methods have been effectively used in reality, they have minimally been tested in VR and it is unknown what the most effective combination of multimodal feedbacks are.

CS4SA-HS: Developing a collaborative of secondary computer science teachers to increase Latinx participation in CS

Sponsor: National Science Foundation

Amount: \$196,670

Start Date: 2020-08-01

End Date: 2021-07-31

PI: Timothy Yuen (COEHD)

Co-PI: Priya Prasad (Mathematics)

Co-PI: Maria Arreguin (COEHD)

Co-PI: Emily Bonner (COEHD)

Co-PI: Amanda Fernandez (Computer Science)

Co-PI: Crystal Kalinec-Craig (COEHD)

Abstract Overview: Our funded project, CS4SA-HS, aims to create, deliver, and study the results of computer science (CS) professional development infused with culturally responsive approaches in local underserved high schools. The purpose is to increase CS and STEM fields learning opportunities for linguistically and culturally diverse learner populations through teacher professional development (PD)... We are requesting supplementary funds for supporting activities to adapt existing (recently created) curricula for online learning so they can be delivered virtually, both synchronously and asynchronously.

NEW UTSA GAME TO TEACH CYBERSECURITY TO ELEMENTARY KIDS

Reprinted from UTSA Today Article



Actively working to improve the nation's culture of cybersecurity, the Center for Infrastructure Assurance and Security at UTSA has developed Cyber Threat Protector, a new tabletop card game designed to introduce cybersecurity principles and safety to players beginning in the third grade.

"High-profile cybersecurity hacks continue to threaten the nation's and communities' security, both in the public and private sectors," said Greg White, a professor in UTSA's Department of Computer Science and director of the CIAS. "While these cyber threats increase, so does the demand for trained professionals and more-aware cyber citizens. In addition to building our future workforce, Cyber Threat Protector is helping young students gain an understanding of the importance of cybersecurity in our everyday lives in a fun way."

Cyber Threat Protector is a two-player card game designed to teach essential cybersecurity information and strategies to students as young as 8 years old. Inspired by card games that students are already familiar with, such as its companion game Cyber Threat Defender, Cyber Threat Protector is an engaging game regardless of age or skill level.

"When designing Cyber Threat Protector, our goal was to make the game fun first and educational second," said Larry Sjelin, director of game development at the CIAS. "Simple to learn and easy to play, it introduces students to the concepts and strategies needed to build a safe network and protect it from common cyber threats. This is also a great way to

keep young players engaged whether in the classroom or for distance learning activities."

Using a single deck of cards, players work to quickly build their network while simultaneously protecting their network from cyber attacks. Cyber Threat Protector is designed to complement any STEM curriculum and introduces game play and cyber concepts also found in Cyber Threat Defender, a collectible card game used to teach cybersecurity to students in middle and high school. Educators from San Antonio classrooms, which beta-tested Cyber Threat Protector, have shared their enthusiasm for its versatility and use in the classroom, afterschool clubs, school enrichment activities and personal use during recess or at home with family.

"There are many STEM and cyber-related games and activities that target middle and high school students, but there's been a deficit in resources for elementary-age students. This innovative game meets the demand from teachers nationwide to introduce concepts like cybersecurity to these young students," added Sjelin.

The production and distribution of the game, at no cost to teachers, is reliant on financial donations and sponsorship support. By successfully integrating the efforts of academia, government and industry, the Center for Infrastructure Assurance and Security has become a national leader in the advancement of state and community cybersecurity capabilities and collaboration.

These efforts are seen in the CIAS's focus areas of cyber defense competitions, cybersecurity training and exercises, and educational game development. The CIAS also leads the Information Sharing and Analysis Organization Standards Organization. Additionally, it is a founding member of the National Cybersecurity Preparedness Consortium, which provides research-based, cybersecurity-related training, exercises and technical assistance to local jurisdictions, counties, states and the private sector.

UPCOMING CIAS COMPETITIONS FOR STUDENTS FALL 2020



Hivestorm is a collegiate-focused cyber defense competition. Teams compete by securing provided Windows and Linux based virtual machines – removing malware and other infections, correcting misconfigurations, mitigating vulnerabilities, disabling vulnerable services, and so on. Teams accumulate points for addressing each scored issue and must race against the clock to accumulate as many points as they can before time expires. Hivestorm 2020 will be October 17th and registration is now open (and free to play!).

To register, go to <http://www.hivestorm.org/>
Registration closes Oct 1st at 10:00 PM Central Time (CST).

STUDENT ORGANIZATIONS FOR UTSA COMPUTING STUDENTS

UTSA has more than 330 student organizations on campus, giving its students have plenty of opportunities to connect with one another. Computer Science (CS) has many student organizations organized and run by computer science students to create a network of community amongst their fellow CS peers. One of the best ways to get connected with other students and stay in-the-know of upcoming events and activities is to join one or more of the CS clubs available for students. These organizations host various events throughout the year, including but not limited to hackathon competitions, capture the flag cyber competitions, industry panels from invited speakers, volunteer opportunities, career prep, hands-on tech workshops, studying sessions, mentoring circles, networking events, and fun socials on and off-campus.

ACM

Association for Computing Machinery

ACM is dedicated to giving members and students the opportunity to gain experience, network, socialize, learn, and grow outside of the classroom in all fields of technology and computing.

Email council@acmutsa.org
Website <https://www.acm-utsa.org/>

ACM-W

Association for Computing Machinery Women's Chapter

ACM-W aims to create an engaging academic, professional, and social network for women and minorities in technology. ACM-W's purpose is to connect students with leaders and encourage them to pursue career opportunities in computing fields and to mentor for academic and professional success.

Email acmw.utsa@gmail.com
Website <https://www.acm-utsa.org/acm-w>

ACM-ICPC

International Collegiate Programming Contest

The ACM-ICPC, or International Collegiate Programming Contest, is a world-wide programming contest where thousands of 3-person teams compete by solving anywhere from 8 to 12 algorithm problems of varying difficulty, from easy to extremely hard.

Email Mark.Robinson@utsa.edu
Website <https://www.acm-utsa.org/icpc>

RowdyHacks

ACM RowdyHacks Committee

RowdyHacks is ACM UTSA's annual hackathon held every year in April. Every year, a committee of ACM members get together to help plan and organize the biggest hackathon in San Antonio, TX accommodating hundreds of students, sponsors, volunteers, and mentors.

Email team@rowdyhacks.org
Website <https://www.acm-utsa.org/rowdyhacks-1>

INTERDISCIPLINARY AND GRADUATE STUDENT ORGANIZATIONS FOR COMPUTING

As the university encourages more collaboration across departments and colleges, more students begin establishing interdisciplinary organizations across wide varieties of fields and specializations. For Computer Science students, there are many opportunities to connect with students from other majors and programs to network with, learn from one another, and develop well-rounded skills applicable to their field of study.

Masters and PhD students also have opportunities to connect with their peers through the graduate student organizations across the university and in the Computer Science department specifically. Graduate students are provided more research specific seminars and information sessions to assist with their courses, theses, and dissertations, as well as social events to connect with their peers and motivate one another to succeed.

RowdyCreators

ACM RowdyCreators

Rowdy Creators is a technology startup incubator that provides students with the opportunity to learn new technologies, build hands-on projects in diverse teams, formulate innovative ideas, and develop proofs-of-concept for potential startup ventures.

Email rowdycreators@gmail.com
 Website <https://www.acm-utsa.org/rowdy-creators>

CSA

Cyber Security Association

CSA regularly participate in offensive and defensive cyber competitions and exercises to hone their skills. CSA provides training and professional events for students in computing fields.

Email utsacyber@gmail.com
 Website <http://utsacyber.com/>

CS-GRAD

Computer Science Graduate Student Association

CS-GRAD is the graduate student group for computer science students at UTSA. Join us on our discord server: <https://discord.gg/b2SMa3> for information on our activities. Join us for tips and tricks for efficient grading and effective recitations. We will also be organizing online social and informational events.

Email Joshua.Greene@my.utsa.edu
 Website <https://discord.gg/weNtPTy>

IEEE EBM

IEEE Engineering in Medicine and Biology Society

All students, especially those interested in the fields that make up the EMBS, are welcome to join. Through volunteering, education, and informative presentations, we strive to promote innovation and participation in the field of technology and medicine.

Email ieee.embs.utsa@gmail.com
 Website <https://embsutsa.wordpress.com/>



Featured Job Opportunities!

#	Employer	Job Title	Type	Application Deadline	How to Apply
1	Chevron	Technology Professionals (Software Engineering, Network, Cyber Security, Data Scientist)	Full Time	September 27th at 11:59pm	Apply via UTSA Handshake
2	HEB	Internship—Information Systems	Full Time Internship	September 28th at 12:00am	Apply via UTSA Handshake
3	Pacific Northwest National Laboratory	Science Undergraduate Laboratory Internship (SULI) Spring 2020	Internship	October 2nd at 4:00pm	Apply via UTSA Handshake
4	EY LLP	EY Advisory Services – Risk – Cyber Threat Management Intern	Internship	October 12th at 11:59 pm	<ol style="list-style-type: none"> You must first apply using your school's online recruiting system for only one of our positions You must apply through our online system at www.ey.com/us/apply. You must complete our Recruiting Candidate Preferences Form: ey.recsolu-campus.com/candidatepreferenceform.php?formId=aGNqZ0%3D%3D
5	Coding4Youth	Computer Science Internship	Part Time Internship	October 31st at 10:10pm	Apply at https://www.coding4youth.org/new_applicant
6	USAA	Cyber Security Intern	Full Time Internship	November 1st at 8:00am	Apply via UTSA Handshake
7	780th Military Intelligence Brigade	Cyber Operations / Cyber Analyst	Full Time	December 31st at 10:55 pm	Apply via UTSA Handshake

VISIT UTSA'S CAREEREDGE WEBSITE

<http://careercenter.utsa.edu/>

FOR MORE GREAT OPPORTUNITIES LIKE THESE!!!

Upcoming Events for CS Students Fall 2020

UTSA Fall 2020 All Majors & Internship Virtual Career Fair

Wed Sept 16th, 10:00am-2:00pm – UTSA Handshake

UTSA Fall S.T.E.M. Virtual Career Fair

Wed Sept 21, 10:00am-2:00pm - UTSA Handshake

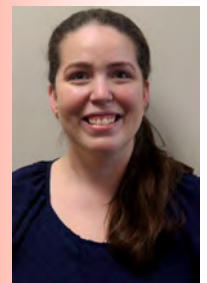
Texas Cyber Summit (Virtual)

Thur Oct 29th– Sat Oct 31st, 11:00am-3:00pm
<https://www.texascybersummit.org/>



Have Questions?
 Story Ideas?
 Photos?

Email the editor at
cs@utsa.edu



Kimberly Ward