UTSA Computer Science

Spring 2022 Semester In Review

IN THIS ISSUE

"UTSA celebrated Women's History Month in March. Toward that, the Computer Science Department would like to dedicate the Spring 2022 Newsletter to all our female students! We highlight Ms. Jenelle Millison, a Computer Science major and the 1st female president of ACM UTSA."

Why did you choose to study Computer Science?

In middle school, I took a technology elective and thoroughly enjoyed it. My teacher encouraged me to TA for her class and served as a role model to me. To have someone who looked like me in that role, made all the difference. Since I had fond memories of that class, I picked up tech-related courses again my senior year of high school, and I struggled. I chose CS because I enjoy the challenge of coding and Computer Science knowledge can be applied to nearly any other field!

Can you tell us about ACM and your involvement?

ACM UTSA is an organization for anyone interested in tech. Whether you identify with a marginalized group in the field of tech, have very little previous experience, or are quite comfortable in the field, the ACM UTSA community has a place for you. If you are looking to bridge the gap between academics and a professional career in tech while making friends along the way, join ACM UTSA. I would not be where I am today without the support, professional development, and technical knowledge I gained from ACM UTSA.

"Be unapologetically you. You not only be long in Computer Science, you are the most exciting part of the future of tech because your unique perspective can and will offer some of the most innovative solutions". - Jenelle

Welcome to our Spring'22 newsletter! The CS department has worked ambitiously long and hard to effectively contribute toward UTSA achieving R1 status, and launching the new year as an R1 institution has been a true gift.

We are honored to be among the six UTSA departments chosen for the National Research University Funds (NRUF) review in late Fall with potential for up to $5M/yr in funding for UTSA. I want to congratulate all for their outstanding research and support for our graduate students. Reviewer's positive evaluation cited our strong faculty and their productivity, solid graduate curriculum, strong external funding, competitive graduate support, aggressive faculty recruitment leading to nine CAREER awards, etc., and argued for growth in faculty size and PhD program.

We welcomed three new fixed-term track faculty this spring. We are looking for several more for fall (full time and part time) who are needed to meet the surging undergraduate enrollment of 11% average annual growth. We resumed tenured-track faculty hiring, with gradually about 50% projected growth in their ranks in the next five years.

I want to extend congratulations to all our graduates, including the nine PhD graduates this academic year.

I invite you to read about numerous activities by the students, including ACM's RowdyHacks with 300+ participants and Poster and Cookies with over 30+ research posters presented by our graduate students. Look for multiple awards and honors that our faculty has received, including the inaugural Robbins fellowship on teaching innovations awarded to Dr. Dutta.

I am now completing my term as the department chair. It has been an honor and pleasure working with fantastic colleagues, who put student first and excel in their research. The department is now slated for an era of growth at both undergraduate and graduate levels, and rise in its national stature through its education and research enterprise and service to our community.

Thanks!
Sushil Prasad, Ph. D.
Department Chair
Computer Science Department

Continued

I started as an ACM Member and Junior Officer in Fall 2019, my Freshman year. I attended ACM General Meetings, ACM-W Meetings, ICPC Meetings and shadowed the 2019-2020 ACM Vice President. Within my first year at UTSA, ACM General meetings on computer vision and research helped me discover my specific interest within Computer Science. I was then elected ACM Vice President for my Sophomore year (2020-2021). In this position, I created bi-weekly "Intro to Tech" Workshops with the Projects Chair, Vanesa Rivera. We taught many topics ranging from basic computer vision topics to building a PC.

This year, I am proud to serve as ACM UTSA's first female President. For the first time, we made membership completely free. I have overseen over 50 events so far this year, collaborated with departments and student organizations on campus, and networked with companies towards the mission of empowering ACM members to grow professionally and jumpstart their future in tech. In Spring 2021 and Fall 2021, I coordinated workshops for RowdyHacks, a hackathon with over 400 participants, and Code Quantum, UTSA's first hackathon geared towards marginalized genders in tech to promote inclusivity and diversity.

What advise do you give women in Computer Science?

Be unapologetically you. You not only belong in Computer Science, you are the most exciting part of the future of tech because your unique perspective can and will offer some of the most innovative solutions.

Although it is difficult due to underrepresentation, find your tribe. Because women are a marginalized group in tech, there is a tighter community on campus, like ACM-W, and beyond which you can look to for mentorship, advice, knowledge, and inspiration. So, put yourself out there and get involved!

You belong in Computer Science. I struggled with the idea I would have to "work harder" to prove myself as a Computer Scientist, but this outlook started to change when a professor once told me, "continue to amaze yourself". I now encourage women in tech to focus on continuously besting their own accomplishments instead of trying to "prove" themselves by measuring against an unrepresentative field.

Ms. Millison is a junior pursing her BS Computer Science with a concentration in Data Science and minor in Mathematics. She is scheduled to gradate in May 2023. Janelle has been involved with ACM since Fall of 2019.

Her interest is Machine learning and deep learning. Specifically in the fields of computer vision or health applications. (A very informative and welcoming Undergraduate Research Experience with UTSA's Vision and Artificial Intelligence Lab (VAIL) in Summer 2020 solidified this interest.)

Per Jenelle, "After graduation, I plan to pursue a graduate degree and conduct research in the fields of machine learning and deep learning. After grad school, I would love to have my own lab or lead a team within a lab where I could work on cutting-edge research while mentoring the next generation of researchers in these fields"

UTSA Computer Science

UTSA's federal designation as a Hispanic Serving Institution (HSI) is only one part of our story. We are taking bold steps to go beyond our HSI designation to become an institution where Hispanic students thrive.

#2 in the Nation for bilingual, multilingual, and multicultural education

#20 in the Nation highest percentage of Hispanic, degree-seeking undergraduates

#9 in the Nation for granting undergraduate degrees to Hispanics

#17 in the Nation in Hispanic graduate student enrollment

https://www.utsa.edu/

Computer Science Highlights & Accomplishments

TITLE: CRII: CPS: Cooperative Neuro-Inspired Actor Critic Model for Anomaly Detection in Connected Vehicles
Sponsor if applicable: NSF
Total Award: $174,998
Start Date: July 1, 2022 to End Date: June 30, 2024
PI/PD/Co PI: **Heena Rathore**

Connected vehicles are an integral part of the future of intelligent transportation systems. They use wireless and sensing technologies to enable communication and cooperation between vehicles and infrastructure. Nonetheless, sensor reliability and data integrity play a crucial role in these vehicles. As vehicles and infrastructures grow increasingly networked and automated, there is a pressing need to identify sensor-related anomalies and mitigate potential safety hazards they might pose. The overarching goal of this project is to protect the connected vehicular network against anomalous sensor readings from any cause to ensure the safety of vehicles and passengers. The research aims to (1) provide new capabilities to broadly address safety concerns in connected vehicles to meet emerging future needs of intelligent transportation systems, and (2) enable a diverse and inclusive community of scientists and engineers to work in multidisciplinary areas such as cognitive machine learning and cybersecurity.
With the ever-increasing complexity of connected vehicles operating in a more complicated cyber-physical social environment, conventional anomaly detection methods will likely not be able to keep pace with the demands of these challenges and function safely in a tomorrow's smart and connected communities. This project will explore (1) novel algorithmic methods that will enable the vehicles to quickly classify different types of sensor failures, learn new emerging anomalous patterns of sensor activity, and assess their risks relative to vehicle safety, and (2) designs for efficient scalable safe multi-agent models to build reputational trust among the connected vehicles in order to facilitate V2V information sharing, learning, and cooperative decision-making, and (3) new consensus-based protocols for connected vehicles that provide for resilience and adaptivity in the presence of disruptions, interruptions, and changes to vehicle participation. Initial test and evaluations are conducted by computer simulations with publicly-available data sets on connected vehicles and autonomous systems.

Award: xTechHBCU-Competition Winner
Research Project Title: Secure Federated Learning at the Tactical Edge
Sponsor: The Assistant Secretary of the Army for Acquisition, Logistics and Technology and Army Research Laboratory (ARL) Army Research Office
Total Award: $45,000
Start Date: n/a to End Date: n/a
PI: Palden Lama
Co-PI: Rajendra Boppana

Federated Learning (FL) is a decentralized privacy-preserving machine learning (ML)/deep learning (DL) approach that allows edge devices to collaboratively train and adapt ML/DL models without sharing the large amounts of data generated at the edge. This decentralized ML approach is promising for Delayed/Disconnected, Intermittently-Connected, Low-Bandwidth (DIL) environments such as the tactical edge. However, FL can be vulnerable to data poisoning, model poisoning, and targeted model poisoning (backdoor attacks), where a malicious client influences model behavior without being detected. For example, an ML/DL model can be poisoned to misclassify airplane images as bird images. Such attacks pose a serious threat to military operations that rely on ML/DL-based analytic services. Existing defense against such adversarial attacks becomes ineffective when the proportion of active benign clients (edge devices) to malicious clients drops intermittently. Our research focuses on developing robust techniques to defend FL against adversarial attacks in a tactical edge environment. The proposed research fits perfectly with ARO BAA Topic 2: Advanced Learning Intelligent Cyber-Physical Systems. It will contribute towards the development of intelligent systems that can continuously learn and adapt in a dynamic environment even in the presence of malicious inputs engineered to disrupt learning.

Computer Science Highlights & Accomplishments

TITLE: CRII: HCC: 3D Hand & Full-Body Pose Estimation in Telehealth for Children with Autism
Sponsor if applicable: National Science Foundation (NSF)
Funding Opportunity: NSF 21-591 Computer and Information Science and Engineering (CISE) Research Initiation Initiative (CRII)
Award amount: $174,368
Start Date: 06/01/2022 to End Date: 05/31/2024
PI/PD/Co PI: **Kevin Desai (sole PI)**
NSF Award Web Link: https://www.nsf.gov/awardsearch/showAward?AWD_ID=2153249

The overall objective of this project is to provide efficient full-body interaction in virtual reality systems that do not use head-mounted displays. This project aims to create accurate and real-time 3D hand and body pose estimation, in the highly significant application area of children with autism. A novel synthetic hand data generation framework will generate 3D hand poses with increased diversity in terms of hand distance from camera, hand size, camera viewpoint, occlusion, background, and skin color. The outcome will be a novel 3D synthetic hand dataset consisting of realistic and kinematically accurate hand models with articulated poses that will advance current and future research endeavors in 3D hand pose estimation research. The project will advance the state-of-the-art in 3D body pose estimation for humans present further away from the camera at room-scale distances. The synthetic dataset, algorithms, and programming libraries will be made publicly available for wide-spread adoption, thereby advancing pose estimation research.
This research will have broad societal impact because it will improve the usability and interaction in human centered telehealth applications, initially helping with the applied behavior analysis for children with autism. Existing systems that employ head-mounted displays or wearable sensors for tracking the user's hand and body movements are not suitable for children with autism, and have disadvantages in many other application areas. Therefore, by enabling 3D hand and full-body pose estimation, this project will advance a plethora of 3D immersive applications such as education, virtual STEM laboratories, tele-rehabilitation, tele-operation, military training, entertainment, and communication. The need for real-time, remote and interactive human motion sensing exists now more than ever, considering the increase in virtual activities because of the recent pandemic.

Dr. Anandi Dutta Receives Kay and Steve Robbins Faculty Teaching Fellowship Award in Computer Science

Project Title: Identify and Integrate “Effective Teaching Components” from the Pandemic Era to Traditional In-Person Teaching

Abstract: In the last two years, educators in higher education faced many challenges and come up with innovative techniques. The educators handled different teaching modes such as hybrid, fully online, and in-person. Each modality has its strengths and weaknesses. The first phase of the project is to formally identify "effective components" that emerge from the last two years of experience. A framework will be developed by collecting data from surveys, interviews, etc. The participants will be students, instructors, and teaching-supportive staff. This framework will be helpful for any CS educator who quickly wants to adopt the
“pandemic-era components” in their traditional in-person teaching. We have already identified two beneficial components for students’ learning; these two components will work as supporting elements to conventional in-person classes: short video lectures/ animations and innovative testing/assessment. In the second phase of the project, we will develop some contents that could be an impactful component across many different courses or courses with several sections. We will identify a few topics and make some short videos and animations. We will create a repository of these contents where the CS instructor can tap on and integrate them into their courses as extra helpful resources for the students. As part of the second phase, we will create an online test/assessment bank for courses. Well-designed assessment is a vital part of learning and building up students' confidence. Any instructor can tap on these resources and integrate them into their courses as one of the assessments along with traditional homework/exams/labs. It also provides ample opportunity for students to practice and reduces exam anxiety.

Congratulations Computer Sciecne Faculty and Staff
University and Departmental Awards

UNIVERSITY AWRD: Innovation & Impact Award (I2): Explore STEM @ UTSA (Wei Wang, Kathy Ewoldt, Mimi Xie, Alberto Mestas-Nunez)

A joint team from the College of Science and College of Education & Human Development won the 2022 UTSA Presidential Innovation and Impact (I-Squared) Award.

The team consisted of Dr. Wei Wang and Dr. Mimi Xie from the Dept. of Computer Science, Dr. Kathy Ewoldt from the Dept of Interdisciplinary Learning and Teaching, and Dr. Alberto Mestas-Nunez from Dept. of Earth and Planetary Sciences. They received this award for their summer programming and data science camps for K-12 students with disabilities.

With higher pay and better flexibility, Computer Science jobs can be viable and preferable for persons with disabilities. Therefore, the goal of this summer camp was to provide an opportunity for students with disabilities in Texas to learn about Computer Science careers and to encourage them to pursue Computer Science degrees in colleges. This camp has been offered twice in the past two summers, and students with different disabilities, such as learning disorder, autism, and blindness have attended. A new camp is also being planned for summer 2022.

T/TT Teaching Award
Dr. Rocky Slavin

Research Award
Dr. Murtuza Jadliwala

Service Award
Dr. Dakai Zhu

FTT Teaching Award
Dr. Kevin Desai

Staff Award
Ms. Debra Leal

The Department of Computer Science would also like to thank all of the faculty and staff for all the incredible work, dedication and commitment you have exhibited throughout the year. We appreciate all you do for the program, for our students, and for the university.

UTSA Computer Science

Posters and Cookies Spring 2022

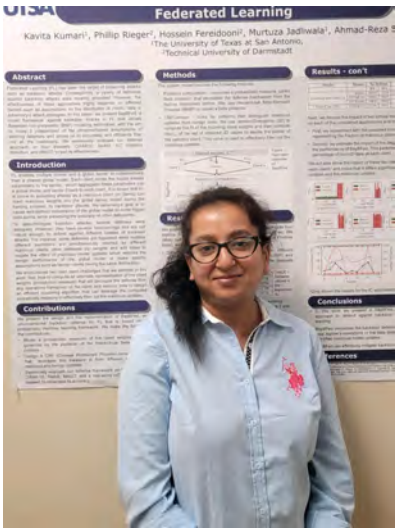
On April 29, the second floor hallways of the UTSA North Paseo Building were crowded with students and visitors for the annual Posters and Cookies event hosted by the Department of Computer Science. Students and faculty were invited to share their current research activities and accomplishments with their colleagues and peers in an informal setting. Thirty-one research posters were presented at this year's event, varying from topics including (but not limited to) augmented reality games, privacy policy, big data, cybersecurity, and cloud computing. In-lab demonstrations were conducted for attendees in the San Antonio Virtual Environments (SAVE) Lab, Vision & Artificial Intelligence Lab (VAIL), Cloud and Big Data Lab, Laboratory for Cybersecurity Dynamics (LCD) and the Laboratory For Systems Research (LSR).

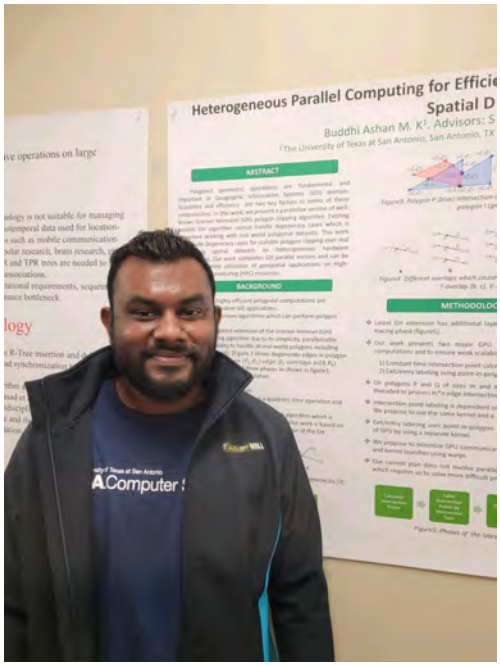
Kumar Thummapudi

Ethan Payne

Staff and Faculty

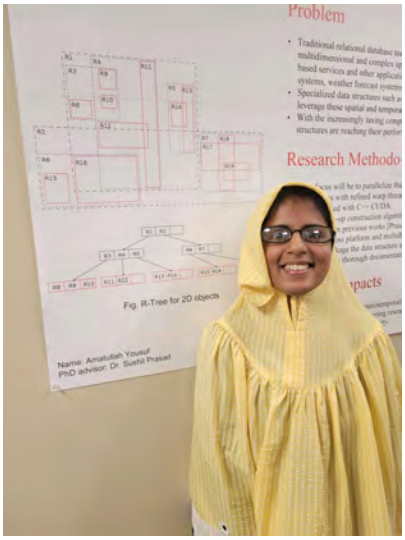
Kavita Kumari





Buddhi Ashan Mallika Kankanamalage

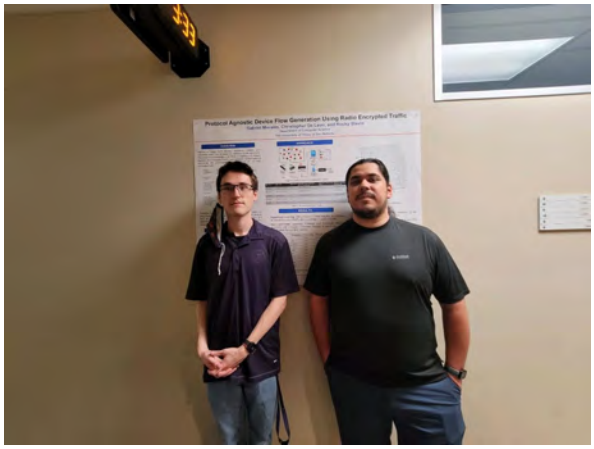
David Patrick



Amatullah Yousuf

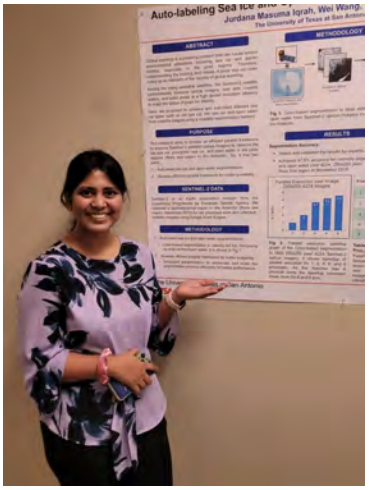
Tanzira Najnin

Dr. Desai, Dr. Yuen, Dr. Boppana, Dr. Rad, Dr. Zhu, Dr. Wang



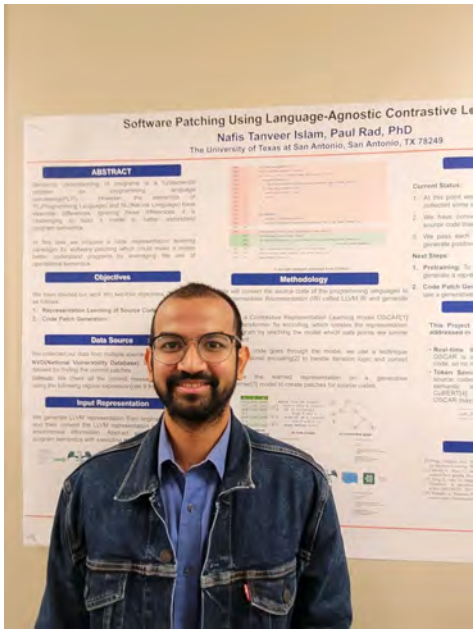
Gabriel Morales, Christopher De Leon

Vasudha Vedula



Jurdana Masuma Iqrah

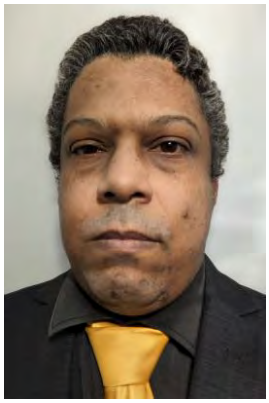
Neda Zand



Nafis Tanveer Islam

UTSA COMPUTER SCIENCE WELCOMES NEW FACULTY

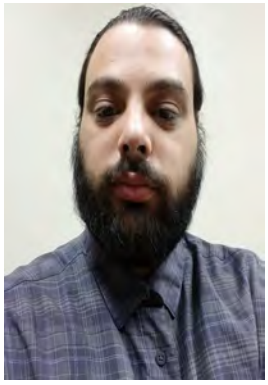
Dr. Stanley Jointer, Assistant Professor of Instruction



Dr. Jointer joined the Computer Science Department in Spring 2022. He received his PhD from the University of Texas at Dallas in 2011. His special interest are computer games (RPG fantasy, strategy), entrepreneurship, investing, fencing, scriptwriting.

According to Dr. Jointer, "The main goal I hope to accomplish while at UTSA is to start both an undergraduate and graduate program in game design, development, and engineering. Not only will the programs teach students the full nuances of game development, but also equip them with most of the information necessary to start their own game production studio and not necessarily rely on being hired by someone else. Why not put yourself in a position to hire yourself?"

Dr. John Heaps, Assistant Professor of Instruction



Dr. Heaps graduated from UTSA with both his Bachelor's degree and PhD. He greatly appreciated all his professors throughout his time as a student. According to Dr. Heaps, "some [faculty] have left UTSA and some are still here, but I hope to be able to continue to give quality teaching and insight to the students of the department. The department has grown considerably since I began as a student here and I want to be able to support and further push the department's growth in student population, student diversity, and by helping to create new courses." On his free time, Dr. John Heaps enjoys cooking.

Mr. Ben Anderson

Ben Anderson comes to UTSA after 10 years as a Principle Member of Technical Staff at Sandia National Laboratories. While at Sandia, he taught and coordinated cyber forensics and incident response training; and was a team lead for the Information Design Assurance Red Team (IDART) and later the Cooperative Adversarial Security Assessments (CASA) group. Per Ben, "that meant I led red team assessments, which is conducting cybersecurity assessments from the perspective of an attacker". During that time he worked with many government agencies, and organizations involved in critical infrastructure. His interests are in the area of cybersecurity - specifically in the interactions between systems involving different technology types and operational environments. Mr. Anderson also competes in amateur bodybuilding and can be often found at the gym at 4:00am".

Meet our Computer Science faculty at

https://cs.utsa.edu/people/faculty

Staff Introduction:
The Computer Science Department welcomes Ms. Anne Rozelle and Ms. Vania Perez to UTSA!

Anne Rozelle comes to UTSA from Our Lady of the Lake University where she was the Business Office Manager for their Social Work department for the past 5 ½ years. Anne was responsible for overseeing the day-to-day activities of the department which included hiring/training/supervising, facility maintenance, assisting faculty, scheduling travel, and managing budgets and expenditures among many other duties.

Ms. Rozelle earned her Bachelor of Science degree in Healthcare Administration from OLLU and worked prior with the Methodist Healthcare System servicing front-end patient registration and patients in the ER. Anne comes to CS with over 25 years of experience in various administrative and customer service roles.

In her free time, she enjoys spending time with family and her two (adult) children, reading, movie watching, painting/ decorating, gardening, and making trips to the beach. Prior to the pandemic, the family lost their last two beloved pets – a Shitzu named "Buster" and a cow cat named "Oreo" -#RIP.

Vania Perez transferred from the Office of Professional Preparation & Partnerships where she worked as a graduate assistant for 2 ½ years under Dr. Belinda Flores. Vania helped the office with the clinical placement of the students, along with administration duties.

Vania graduated with her Bachelor of Science in Psychology from the Texas A&M San Antonio University and is currently pursing her Master of Science degree in Clinical Mental Health Counseling from UTSA with a graduation date of May 14, 2022. Vania has worked in higher education as a student worker and graduate assistant for 5 years, with customer service and administration roles.

Vania is a big lego fan, she finds building them relaxing and is what helps her get through some of the difficult days. She also enjoys going out with her family during the weekends and traveling.

UTSA's Carnegie R1 classification affirmed, elevating the university and San Antonio

Reprinted from UTSA Today

FEBRUARY 3, 2022 — The University of Texas at San Antonio today announced its R1 Classification from the Carnegie Classification of Institutions of Higher Education is now official.

Yesterday marked the end of Carnegie's six-week public review period and final data release, the last step in the formal designation of UTSA as an institution with "very high research activity."

The Carnegie R1, or "Tier One," designation is synonymous with both academic and research excellence. The designation places UTSA among the nation's top public and private research universities, amplifying its statewide and national exposure to attract and recruit world-class faculty and top students.

In Texas, other Carnegie R1 institutions now include Baylor University, Rice University, Texas Tech University, University of Houston, University of North Texas, and the campuses of the University of Texas at Austin, Arlington, Dallas and El Paso. In Carnegie's analysis, UTSA clusters nationally around Case Western Reserve University, Rice University, Tufts University, and the University of California at Santa Cruz.

"Today's affirmation of our Carnegie R1 classification solidifies one of our most critical waypoints on UTSA's path to become a great public research university," said UTSA President Taylor Eighmy. "I am forever grateful that the 81st Texas Legislature passed H.B. 51 in 2009—establishing a pathway for UTSA and other emerging research universities here in Texas to pursue Tier One designation. Texas, and especially the City of San Antonio, deserve Tier One educational and research institutions to advance economic mobility and robust economic development driven by a knowledge economy."

Tier One institutions offer vast advantages to their campus and local communities. Universities with very high research activity "attract and supercharge innovative businesses that help make Texas a global destination," according to Dan Branch, former chairman of the Texas House Committee on Higher Education, author of H.B. 51, and writer of a January 12 opinion piece in The Dallas Morning News about the power of R1 universities in Texas.

Waypoints to excellence

UTSA's journey to the Tier One designation, one of the university's most significant milestones in advancing research excellence, involved increasing annual research expenditures, expanding its pipeline of doctoral students, garnering national recognition for its researchers and growing its number of National Academy faculty members.

Combined with UTSA's other distinctions, the top-tier designation places UTSA in several exclusive categories. The university is now one of only about 20 universities that is designated as both a Hispanic Serving Institution and Tier One, giving more of our nation's most talented Latino students and faculty opportunities to conduct research with worldwide impact. In addition, UTSA is one of only six Tier One universities to hold three National Centers of Academic Excellence designations from the U.S. Department of Homeland Security and National Security Agency.

UTSA is also working to gain access to the National University Research Fund (NRUF) in Texas, which will provide the university with additional funding from the state for research endeavors. As another significant waypoint on the trajectory to becoming a great public research institution, NRUF eligibility will further solidify UTSA as a university capable of tackling society's grandest challenges on local, state and national scales.

"UTSA's designation as Carnegie R1 positions the university to align with the prestigious Association of American Universities while empowering faculty, staff and students to achieve excellence that will help close education gaps within our community," said UTSA Vice President for Research, Economic Development, and Knowledge Enterprise Bernard Arulanandam. "The classification will enable us to expand our strategic partnerships with federal granting agencies and our capacity to find solutions for our society's grandest challenges."

Advancing UTSA as a Hispanic thriving university

UTSA's location in a city that represents the demographic future of the United States uniquely positions it to make the world a better place through research. As an urban serving university, and as only one of 10 Tier One institutions with the Seal of Excelencia from Excelencia in Education, UTSA prioritizes inclusivity and serving the community by helping more Latino students achieve academic success.

UTSA Computer Science

Continued

The Carnegie R1 designation opened up an opportunity for UTSA to join the recently formed Alliance of Hispanic Serving Research Universities, an organization dedicated to increasing the number of Latinos in academia—especially those pursuing Ph.D.s—and to collaborating around large federal funding opportunities. As a member of the Alliance, UTSA will help develop a diverse doctoral pipeline into higher education and address societal grand challenges through strategic research and development partnerships.

Tier One advantage

"For Roadrunners, the impact is immediate and direct. Tier One designation improves the degree value, increases choices for our students aiming to pursue graduate study at other now peer university programs, creates stronger professional affiliations for our faculty and elevates our stature in the national research community," said Provost and Senior Vice President for Academic Affairs Kimberly Andrews Espy. "Simultaneously, the designation advances San Antonio's knowledge pipeline by attracting additional talented faculty, who in turn further our local workforce."

Additionally, Tier One status encourages more strategic partnerships between UTSA and local research organizations such as UT Health San Antonio, Southwest Research Institute, Texas Biomedical Research Institute, Brooke Army Medical Center and Joint Base Saint Antonio. These partnerships accelerate the establishment of research centers and institutes within the university—including the National Security Collaboration Center, the School of Data Science and the Cybersecurity Manufacturing Innovation Institute—as well as throughout the city.

"Today's affirmation of our Carnegie R1 classification solidifies one of our most critical waypoints on UTSA's path to become a great public research university." - UTSA President Taylor Eighmy

The decade ahead

UTSA's R1 designation further fuels the university's trajectory to achieve its 10-year vision to become a university of the future. Leading with three overarching destinations to guide the university forward, UTSA is uniquely positioned to serve society due to its deep integration in a region that reflects the demographic future of the country.

The university is on track to educate Roadrunners across four or more thriving campuses, enroll more than 45,000 full-time students, and employ more than 2,000 faculty members and more than 3,250 staff members. With R1 designation achieved and a path forward toward earning access to the National Research University Fund, research expenditures are anticipated to grow larger than $300 million with endowments over $400 million over the next 10 years.

"I am so grateful to our faculty, staff and graduate students for their incredible efforts leading to this recognition. In the next decade, UTSA will become a national model for student success, a great public research university, and an exemplar for strategic growth and innovative excellence," Eighmy said. "The traction we're seeing on multiple fronts—in athletics, fundraising, enrollment, academic innovation and research—position us to serve as an exemplar for the future of higher education in the United States."

— Kimberly Maldonado

UTSA Computer Science

Fall 2022 Computer Science Ph. D. Graduates

Shuvra Chakraborty
Major Professor: Ravi Sandhu, Professor, Ph.D.
Dissertation Title: "Feasibility Analysis of Access Control Policy Mining"

Huashan Chen
Major Professor: Turgay Korkmaz, Professor, Ph.D.
Dissertation Title: "A Framework for Qualifying Security Effectiveness of Cyber Attacks and Defenses"

Deepti Gupta
Major Professor: Turgay Korkmaz, Professor, Ph.D.
Dissertation Title: "Securing Infrastructure for Internet of Medical Things Using Machine Learning"

Xueling Zhang
Major Professor: Jianwei Niu, Professor, Ph.D.
Dissertation Title: "'Reducing False Negatives in Taint Analysis via Hybrid Source Inference"

Summer 2022 Computer Science Ph. D. Prospective Graduates

Sen He
Major Professor: Wei Wang, Assistant Professor, Ph.D.
Proposal Title: "Performance Testing of IaaS Cloud platforms and Serverless Cloud platforms"

Kavita Kumari
Major Professor: Murtuza Jadliwala, Associate Professor, Ph.D.
Proposal Title: "When and How to Protect? Modeling Repeated Interactions with Computing Services under Uncertainty"

Tianyi Liu
Major Professor: Wei Wang, Assistant Professor, Ph.D.
Proposal Title: "Enabling 3D Applications in Public Cloud"

Spring 2022 Computer Science Ph. D. Prospective Graduates

Nahim Adnan
Major Professor: Jianhua Ruan, Professor, Ph.D.
Dissertation Title: "Robust and Interpretable Machine Learning for Cancer Outcome Prediction"

Eric Ficke
Major Professor: Ravi Sandhu, Professor, Ph.D.
Dissertation Title: "Towards Automated Cyber Defense"

Rifatul Islam
Major Professor: John Quarles. Professor, Ph.D.
Dissertation Title: "Utilizing Deep Neural Networks for Cybersickness Prediction, Detection and Reduction in Virtual Reality"

Rodney Rodriguez
Major Professor: Xiaoyin Wang. Professor, Ph.D.
Dissertation Title: "Static File Path Analysis for Reliable Resource Locating"

Mehrnoosh Shakarami
Major Professor: Ravi Sandhu, Professor, Ph.D.
Dissertation Title: "Operation and Administration of Access in Iot Environments"

UTSA Computer Science

The University of Texas at San Antonio's undergraduate drone team took home first place during the 2021 IEEE DASC Drone Competition

In October 2021, Aaron Moreno, led a team representing UTSA in the 40th annual IEEE Digital Avionics Systems Conference (DASC) drone competition. In addition to Aaron, the team consisted of Alberto Bello (Junior/Computer Science), Ian Solis (Senior/Computer Science), and Roberto Villagran (Junior/Mechanical Engineering).

The goal of the competition was to program an autonomous drone so that it would successfully complete an obstacle course. Aaron and the team were the only group whose drone was able to successfully complete the entire course and won first place.

From Linked In:
"2021 IEEE Digital Avionics Systems Conference Drone Competition 1st Place:

The University of Texas at San Antonio's undergraduate drone team took home first place during the 2021 IEEE DASC Drone Competition. Team members had experience with robotics through their personal hobbies and involvement with the UTSA IEEE Robotic Automatic Society Student Chapter, they had never worked with drones prior to the competition. Through their hard work and remote coordination over the Fall semester, the team was able to write a simple and effective algorithm which flew a drone successfully through an obstacle course".

The next scheduled DASC conference will be in Portsmouth, Virginia. Visit the website to know more about the Digital Avionics Systems Conference, and stay tuned for more updates: https://2021.dasconline.org/

What do YOU want to see covered in this newsletter?

Do you know of upcoming CS related events?

Do you have any success stories to share?

Email us at CS@utsa.edu

RowdyHacks 2022

The annual **RowdyHacks** hacka-thon hosted by the Association for Computing Machinery (ACM) and Association for Computing Machinery Women (ACM-W) student chapters at UTSA was held on March 27, 2022. Students gathered to create, design, and develop projects. Teams had 24 hours to build applications, games, or other creative programs and present a working product to a panel of guest and judges. 336 hackers developed 51 projects. $6,400 in prizes were awarded to the hackers.

All participants who attended were provided food, energy drinks, and 2022 event shirts. Sponsors included The MITRE Corporation, TD SYNNEX, Frost, paycom, Valero, Google, H-E-B, ARA, ACM UTSA, Major League Hacking, Assembly Al, Wolfram Language, and UTSA's College of Engineering and College of Science.

1st place General and Best Hardware
NFT Garden
(Automated Hydroponic Garden)

Joshua Lazaro
Ethan Chaney
Alex Smith
Finn Burmeister-Morton

Learners Track: 1st Place
Mod.re (A task manager that will function entirely within Discord)

FergusMcDergus
Nelson-Ferguson

Learners Track: Second Place
Level Up (Level Up is a concept where a user can take a single photo, an avatar twin is created, and can be used in a VR simulation)

Eduardo Trevino
Christopher Placencio
Jiovanny Velazquez
Johm N. Weaver

Best Retro Hack
Dino-BEATS

Brandon
Stevenson
Gabby Mapa

Best Cyber Security Hack
Hashbrown (tool to easily collect and verify multiple hashes of files in your Linux system)

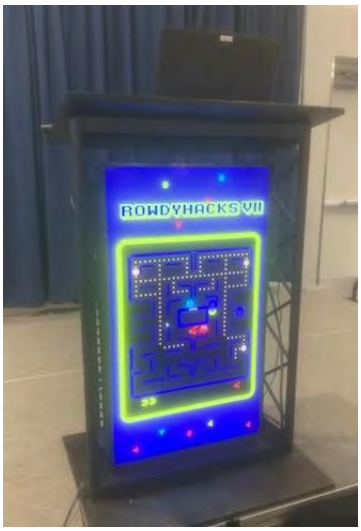
Jose Soraiz
Mason Eckenrod

Best use of AssemblyAI API
RetroTubing
(Speak with Mystique!)

phillipnelson770
Nathaniel Brown

Best use of Google Cloud
Most Creative use of Twilio
General Track: 2nd place
DNS Exfil
(A covert method of exchanging data in restrictive environments)

Jacob Rahimi
Harrison Lewis



Retrieved from: https://rowdyhacks2022.devpost.com/

RowdyHacks 2022

Best Domain Name
imissmyarcade (provides the tools and vibes to help you succeed in your academic and personal life with a retro arcade theme!)

Jenelle Millison
Izzy Monty
Natalie Mosqueda

Best use of Wolfram\|One
RNJazzerator
(By reading a wav file we create a non-deterministic binary number that is checked for primality and used in cryptography.)

tdizzlefizzle1
Stephen Dean
Matthew Sander
collinb585 Behunin

UTSA University Career Center

Your career interest and development is important because you are working toward to dream, a goal, and a purpose! The University Career Center will work with you to support you finding experiences and opportunities while with UTSA and beyond! Creating a plan and strategy for your success is our passion. Therefore, we provide individual career counseling,virtual networking events with employers from across the country, and a vast array of virtual resources.

Check out what we have for you!

- Log-in to Handshake to connect, schedule appointments, find events, jobs and more!
- Unsure about what career to pursue? Take the Career Explorer Assessment
- VMock provides you with instantaneous feedback on your resumes, 24/7.
- CareerShift is a national job search tool . Career Shift pulls jobs posting from all over the internet and puts them all in one place.
- Interview Stream allows you to get interview practice before the actual interview! Practice from the comfort of your computer and get feedback on how on well you did.
- Check additional resources the University Career Center offers on our Resources Page.
- Join us at our largest fall fairs. Keep an eye on our website or Handshake for all the details!

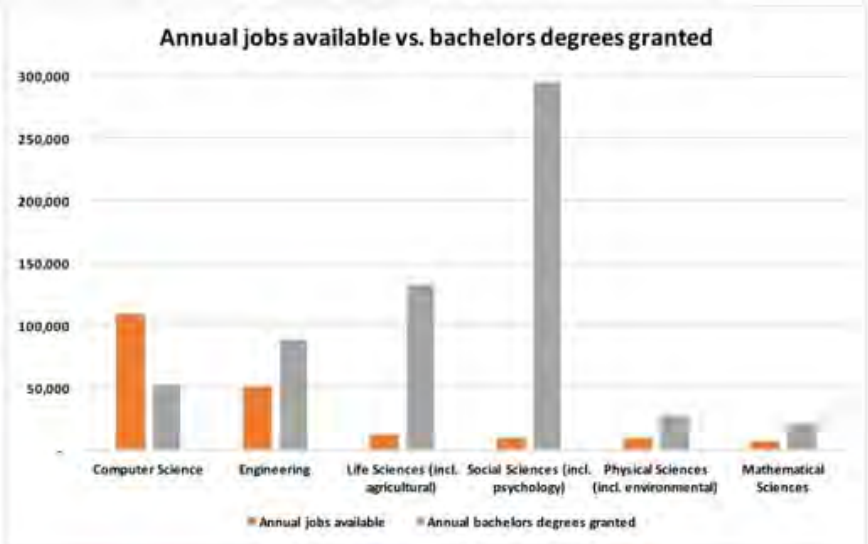
Visit the Career Center at Main Campus, Student Union 2.02.04.
You can also just visit our website or email us at career.services@utsa.edu.

According to the National Association of Colleges and Employers, "The likelihood of securing a paid internship increases for students who visit their campus career center".

Computing jobs are the #1 source of new wages in the United States

Did you know that a degree in Computer Science is the one of highest salary earning degrees? According to ZipRecruiter, " the annual pay for a Computer Science Bachelor in the United States is $68,673." *https://www.ziprecruiter.com/Salaries/Computer-Science-Bachelor-Salary*

And, annual jobs available far exceeds bachelor degrees awarded.



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

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

INTERDISCIPLINCARY AND GRADAUATE STUDENTS 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 for tips and tricks for efficient grading and effective recitations.

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

Website https://embsutsa.wordpress.com/