

## CSE NEWSLETTER: A LOOK INSIDE THE DEPARTMENT

### Message from the Chair

Two weeks ago, we had our CSE End-of-the-Year Celebration, as well as our Awards Ceremony, to celebrate our students' inspiring achievements. Seeing what our students have accomplished in this difficult year is truly inspiring. You can find all the winners on this [Twitter thread](#) (Speaking of which, you follow us on Twitter right? If not, go forth quickly and rectify this).



Sorin Lerner

During the End-of-the-Year Celebration, we also looked (and marveled!) at the CSE Pixel Art Competition entries. I am excited to announce the winners (and ALL entries) on [this page](#). These are a great reflection of the collective spirit of CSE.

Finally, the end of an academic year is a perfect time to slow down and think back. We have journeyed through a long and arduous year. And yet, we have come out stronger and more resilient than ever. The future is calling, and we must accept its challenges. We will succeed with passion and compassion. We will shape the future. We will turn "why" into "why not." We will inspire and be inspired. Let us all forge forward and step into a brighter future.

Sorin Lerner, CSE Department Chair

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## CSE ON TWITCH

### Livestreaming on July 15

CSE will be hosting its inaugural [Twitch livestream](#), featuring Sorin Lerner and Niema Moshiri, on July 15 at 6 pm. What should they talk about? Sorin and Niema have their own ideas but what do you think? [Tell us](#) what you want to know.

## CSE NEWS

### Joe Politz, Distinguished Teacher

Assistant Teaching Professor Joe Politz has been honored by the UC San Diego Academic Senate with a prestigious [Distinguished Teaching Award](#) for his tireless work and dedication to his students.

### Zexiang Xu Receives Chancellor's Dissertation Medal

Ph.D. candidate Zexiang Xu was among seven students to receive the UC San Diego [Chancellor's Dissertation Medal](#) for outstanding doctoral research.

### Vianu Honored for Research "Gems"

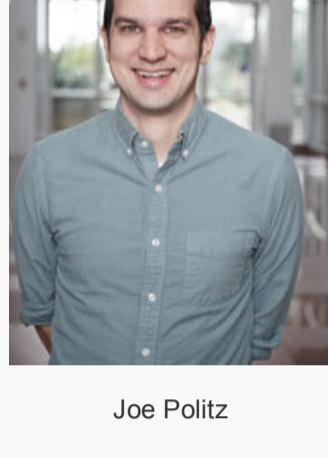
Victor Vianu presented at the virtual [ACM SIGMOD Principles of Database Systems \(PODS\)](#), which was held June 20 to 25, as part of Gems of PODS series. These are similar to test of time awards but more broadly encompass a major body of work.

### Bellare Receives IACR Test of Time Award

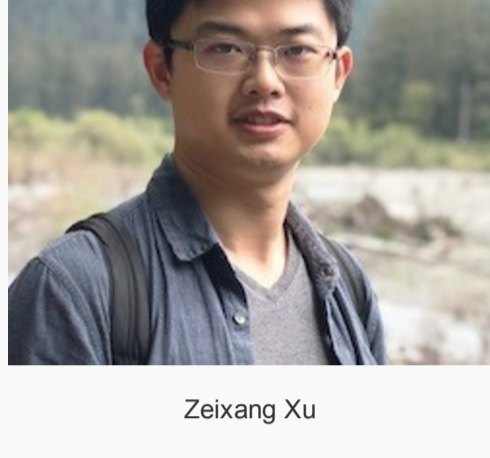
Mihir Bellare has been honored with an [IACR Test of Time Award](#) for his Crypto 2006 paper: *New Proofs for NMAC and HMAC: Security Without Collision-Resistance*.

### Stefan Savage Named Distinguished Researcher

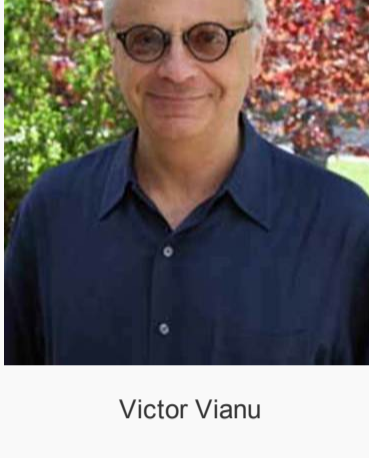
Stefan Savage, who has long been recognized for his cybersecurity work, is one of two faculty to be honored as a [Distinguished Researcher](#) by the UC San Diego Academic Senate.



Joe Politz



Zexiang Xu



Victor Vianu

### Improving the Virtual Classroom

The COVID pandemic precipitated a major shift to virtual learning—an unplanned test of whether these technologies can scale effectively. But did they? Nadir Weibel's lab [recently presented findings](#) at ACM's Conference on Human Factors in Computing Systems (CHI).

### Machine Learning Enhances Non-Verbal Communication Online

Shlomo Dubnov and colleagues at the Center for Research on Entertainment and Learning have [developed a system that analyzes and tracks eye movements](#) to enhance teaching in virtual classrooms.

### AI Predicts How Patients With Viral Infections Will Fare

Debashis Sahoo and colleagues [have used an artificial intelligence algorithm](#) to sift through terabytes of gene expression data — which genes are on or off during infection — to look for shared patterns in patients with past pandemic viral infections, including SARS, MERS and swine flu.

### Arun Kumar is Helping Solve the Data Problem

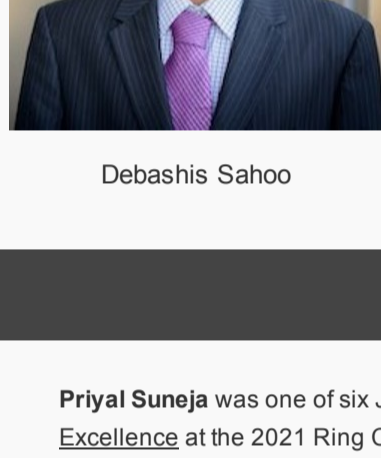
[Big datasets](#) can be incredible assets in business, healthcare, the physical and social sciences and many other disciplines — but the data won't reveal itself. To isolate useful information and harness its predictive capabilities, researchers and organizations rely on sophisticated data sorting techniques, such as machine learning.

### Increasing Diversity in Immunogenomics

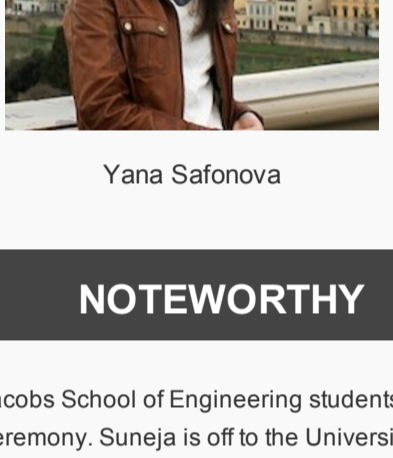
Postdoctoral researcher [Yana Safonova](#) co-authored an article in *Nature Methods* calling for increased diversity in immunogenomics. Limiting immunogenomics studies to people of European ancestry restricts our ability to identify variations in human adaptive immune responses across populations.

### Meet Albert Chern

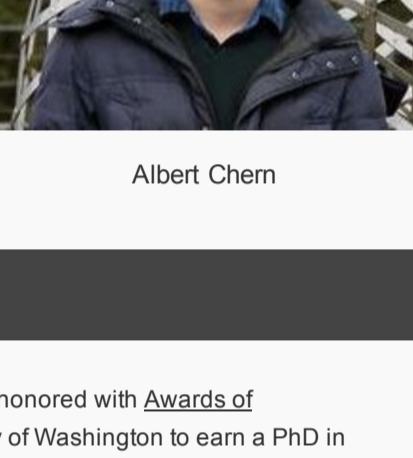
New faculty member [Albert Chern](#) was torn between math and computer science. In fact, for most of his academic career, math came first.



Debashis Sahoo



Yana Safonova



Albert Chern

## NOTEWORTHY

[Priyal Suneja](#) was one of six Jacobs School of Engineering students honored with [Awards of Excellence](#) at the 2021 Ring Ceremony. Suneja is off to the University of Washington to earn a PhD in Systems and Networking.

CSE [honors undergrads](#) for exemplary performance: [Kabir Nagrecha](#) in research; [Aidan Denlinger](#) in teaching; [David Dempsey](#) in service and leadership and [Yada Chuengsatiansup](#) for contributions to diversity.

[Dheeraj Mekala](#), who focuses on machine learning and natural language processing, received the Masters Student Achievement Award for Excellence in Research.

[Uyen Mai](#), who studies computational biology and data science, has been awarded a Marye Anne Fox Endowed Fellowship, which will help fund her dissertation year.

Undergrad [Julia Markel](#) and associate professor [Philip Guo](#) were [honored](#) for their paper, [Inside the Mind of a CS Undergraduate TA: A Firsthand Account of Undergraduate Peer Tutoring in Computer Labs](#), at CIGCSE 2021.

Three Database Lab students placed highly in the ACM SIGMOD 2021 Student Research Competition. [Kabir Nagrecha](#), who is staying at CSE for his PhD studies, came in first among undergrads. He goes on to the CS-wide ACM SRC Grand Finals. [Side LI](#) came in second among graduate students. [Advitya Gemawat](#) advanced to the second of three rounds.

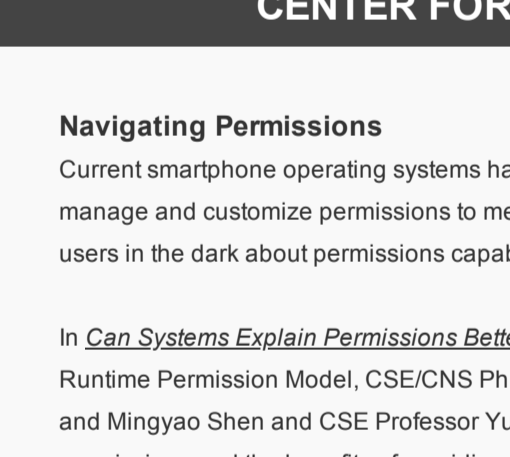
PhD students [David Paz](#) and [Hengyuan Zhang](#) won best overall poster for *Towards Autonomous Vehicle Navigation without HD Maps* at the Jacobs School of Engineering Research Expo Awards.

[Nadia Polikarpova](#) was part of an international team, including former CSE postdoc [Hila Peleg](#), now at the Technion, who were honored at PDLI 2021 for their distinguished paper: [Cyclic Program Synthesis](#).

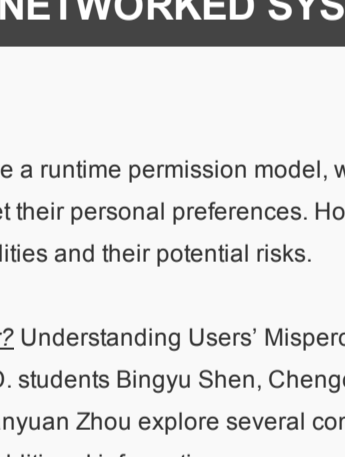
[Pat Panuto](#), [Ryan Kastner](#) and [colleagues received Best Presentation Runner-Up for A UCSD View on Replication and Reproducibility for CPS & IoT](#).

[PC Magazine](#) had a Q&A with [Laurel Riek](#) on her lab's efforts to develop robots that can ease the burdens of caregivers in emergency departments, skilled nursing facilities and other settings.

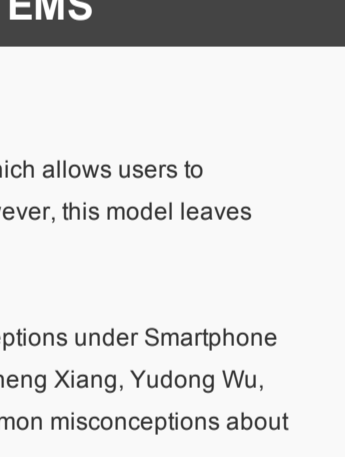
Postdoc [Daniel Moghimi](#) was recently interviewed for a Wired article about [Rowhammer attacks](#).



Priyal Suneja



Dheeraj Mekala



Uyen Mai

## CENTER FOR NETWORKED SYSTEMS

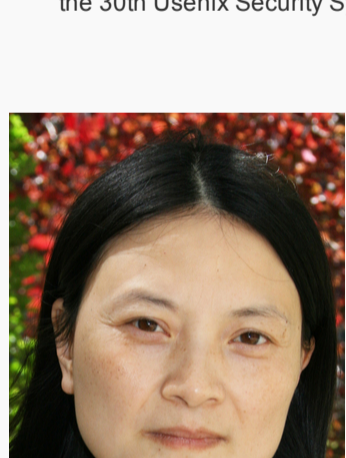
### Navigating Permissions

Current smartphone operating systems have a runtime permission model, which allows users to manage and customize permissions to meet their personal preferences. However, this model leaves users in the dark about permissions capabilities and their potential risks.

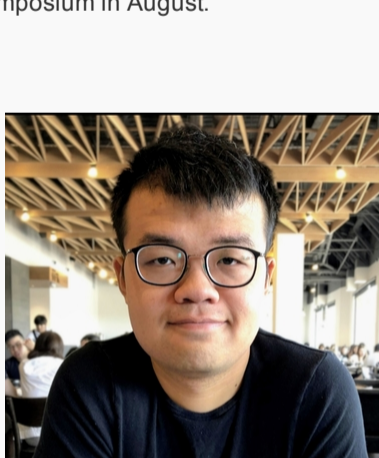
In [Can Systems Explain Permissions Better?](#) Understanding Users' Misperceptions under Smartphone Runtime Permission Model, CSE/CNS Ph.D. students Bingyu Shen, Chengcheng Xiang, Yudong Wu, and Mingyao Shen and CSE Professor Yuanyuan Zhou explore several common misconceptions about permissions and the benefits of providing additional information.

The team took a mixed-methods approach, analyzing users' permission settings and surveying them to determine how well they understand them. They found users often fail to understand permission model evolution and permission group capabilities.

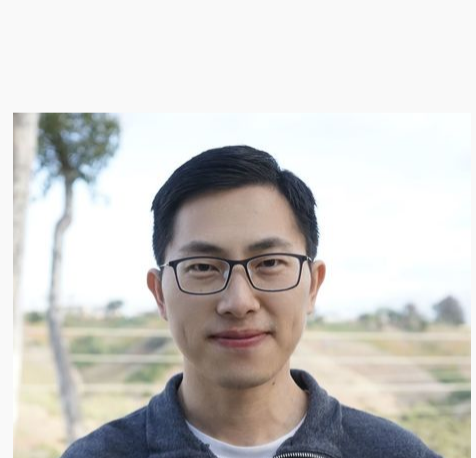
After surveying users about their common concerns, the team pinpointed five types of information that could support better user decision-making. They went on to provide suggestions for system designers to address these common issues and enhance future systems. The team will present their findings at the 30th Usenix Security Symposium in August.



Yuanyuan Zhou



Bingyu Shen



Chengcheng Xiang

## PIXEL ART

### Winner Winner...

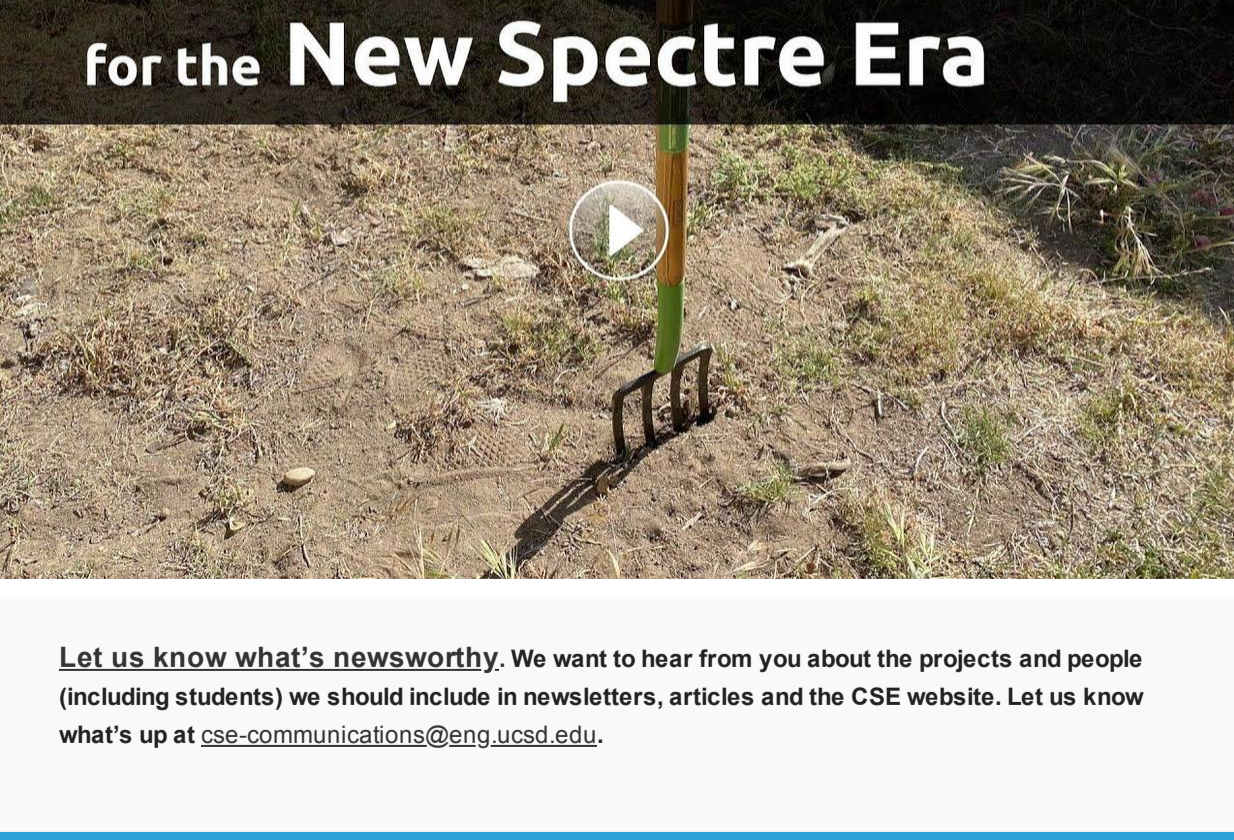
Check out the [winners](#) and all other entries, from CSE's first-ever Pixel Art Competition. Many thanks to all participants.



## CSE VIDEO HIGHLIGHT

### Can Systems Explain Permissions Better?

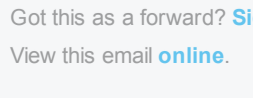
Sunjay Cauligi and Craig Disselkoen's 2020 PLDI [paper](#), was a finalist in the inaugural Intel Hardware Security Academic Award, recognizing it as one of the top four papers of the year. Here's their video explainer.



[Let us know what's newsworthy](#). We want to hear from you about the projects and people (including students) we should include in newsletters, articles and the CSE website. Let us know what's up at [cse-communications@eng.ucsd.edu](mailto:cse-communications@eng.ucsd.edu).

[CSE.UCSD.EDU](http://CSE.UCSD.EDU)

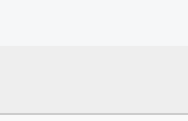
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