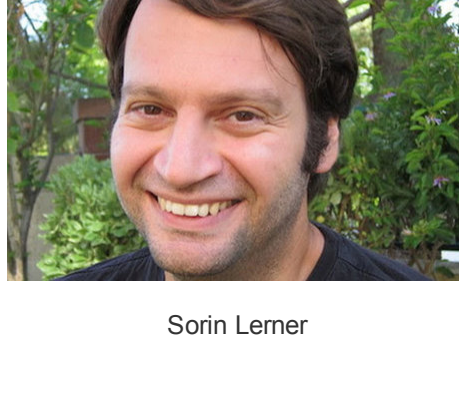


## CSE NEWSLETTER: A LOOK INSIDE THE DEPARTMENT

### Message from the Chair

As we near the end of another quarter, pandemic edition, I hope you are all staying safe and sane. We all look for connections during this time of isolation, and I hope this newsletter can help refuel your connection tank, even just a little bit.

I am extremely excited to announce that Niema Moshiri received the Jacobs School of Engineering Best Teacher Award for Computer Science and Engineering. Niema is an energetic teacher beloved by students, whose passion and energy embody the very nature of our student-centered educational mission.



Sorin Lerner

Niema also conducts exciting research in bioinformatics, and I have seen firsthand how engaging he is when explaining complex research topics to undergraduates. Niema, many heartfelt congrats!

Feel free to drop me a line. I am always happy to hear from faculty, students, staff, alumni and friends of CSE. It makes me feel more connected to our community.

Keep safe, stay connected, and let's keep working together for a better tomorrow.

**Sorin Lerner, CSE Department Chair**

Stay connected with CSE by following our [Twitter](#), [Facebook](#) and [LinkedIn](#) and [Instagram](#) feeds. If you have news to share, story ideas or comments for our CSE Communications team, please send them to [cse-communications@eng.ucsd.edu](mailto:cse-communications@eng.ucsd.edu).

## CSE NEWS

### Studying Extrachromosomal DNA

**Vineet Bafna** and colleagues are taking a deep look at [extrachromosomal DNA](#) (ecDNA). These are round islands of DNA that have broken away from their home chromosomes, duplicating genes, driving cancer aggressiveness and making many tumors more difficult to treat.

### Faking Out Deepfake Detectors

Researchers in the **Julian McAuley** lab have shown, for the first time, that systems used to detect deepfakes – videos that manipulate real-life footage – [can be deceived](#) by inserting manipulated inputs called adversarial examples into each frame, forcing detection systems to make mistakes.

### The Sounds of COVID

Professor of music and computer science **Shlomo Dubnov** has shown that we can [detect COVID-19](#) infections by analyzing certain voice characteristics in patients and comparing them to sample audio clips from healthy speakers. See video below.

### CSE Researchers Receive \$7.5 Million to Study Photonic Networks

**George Porter** and colleagues have been awarded [\\$7.5 million](#) to study photonic network topologies in data centers. Funded by the US Advanced Research Projects Agency-Energy (ARPA-E) and the California Energy Commission, the project seeks to remove network bottlenecks and reduce data center inefficiencies.

### Niema Moshiri is Teacher of the Year

Congratulations to UCSD CSE alum (x2) **Niema Moshiri**, who has been honored as Jacobs School of Engineering's Best Teacher for Computer Science and Engineering in only his second year as an assistant teaching professor. Nicely done, Niema.

### Meet Kristen Vaccaro

New **Assistant Professor Kristen Vaccaro** recently earned her Ph.D. at the University of Illinois Urbana-Champaign and studies social media. Specifically, she investigates how we can design machine learning systems that improve user agency and control.

### In Memoriam: Walter Savitch

**Walter Savitch**, CSE professor emeritus, passed away on February 1, three weeks before his 78th birthday. Savitch is remembered as a kind and patient advisor, a dedicated educator, a mentor and a world-class computer scientist. His deep insights into computational complexity and computational linguistics remain influential.



Vineet Bafna



Niema Moshiri



Kristen Vaccaro

## NOTEWORTHY

**Associate Professor Nuno Bandeira** has been honored with a [Gilbert S. Omenn Computational Proteomics Award](#), which recognizes researchers who creatively use computational methods and software to advance proteomics.

Three computer science undergrads were honored at the [Symposium on Principles of Programming Languages' Student Research Competition](#). **Darya Verzhbinsky** and **Daniel Wang** were awarded first place for their work on *Polymorphic Enumerative Type-Guided Synthesis*, and **David Cao** earned second place for his paper on *Automated Dependent Resource Analysis*. All three students conduct research with **Nadia Polikarpova** in the Computer Science and Engineering Department.

Computer Science and Pediatrics **Professor Debashis Sahoo** and his team have reached the second round of the [XPRIZE Pandemic Response Challenge](#). The competition seeks to spur efforts to manage pandemic control without destroying economies.

The 2021 [CRA Outstanding Undergraduate Researcher Awards](#) has honored **Bonnie Huang** and **Raechel Walker** as finalists. **Kabir Nagrecha** and **McKenna Lewis** received honorable mentions.

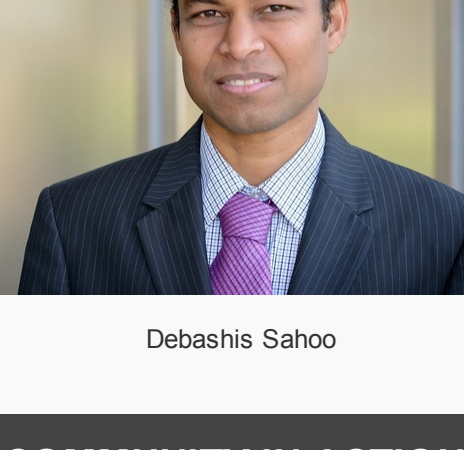
Congratulations to the **UC San Diego Collegiate Cyber Defense Competition Team** for making the top eight at the [Western Regional Collegiate Cyber Defense Competition](#). Next month they'll be in the regional finals, battling for a spot at the national competition.

Congratulations to **Rose Yu**, who just received an [AWS Machine Learning Research Award](#), which fund machine learning research. Yu's project is called, *Deep Relational Forecasting for Dynamic Graphs*.

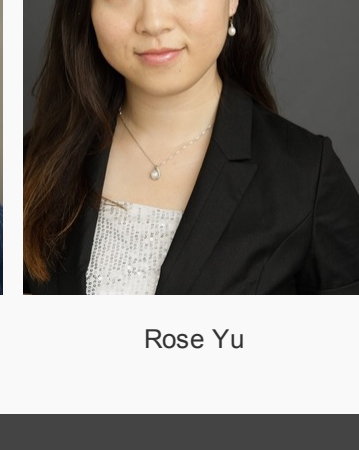
**Ronald Graham** was recently eulogized in [The New Yorker](#). The article notes: "He had a sharklike intellect, ravenous and always on the move; at any given moment, he was likely to be learning Chinese, or working on a new trick on the trampoline, as well as researching a math problem. Fittingly, he was a world-class juggler (even president of the International Jugglers Association for a time)."



Nuno Bandeira



Debashis Sahoo



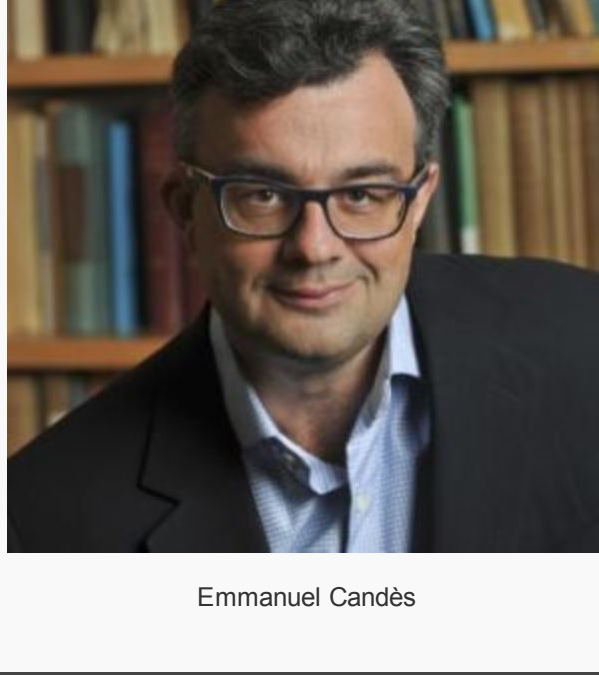
Rose Yu

## COMMUNITY IN ACTION

### HDSI Symposium

The Halıcıoğlu Data Science Institute will be holding its [Third Anniversary Symposium](#) on March 1. Happy birthday HDSI! We are so excited to see the Data Science Institute thrive in so many ways and are pleased to be working together to advance the work.

The event will feature a keynote from Emmanuel Candès, director of the Stanford Data Science Institute, and will include panelists Jennifer Chayes (Berkeley), Jeannette M. Wing (Columbia) and Terrence Sejnowski (UC San Diego and Salk).



Emmanuel Candès

## CENTER FOR NETWORKED SYSTEMS

### Democratizing Deep Learning Systems

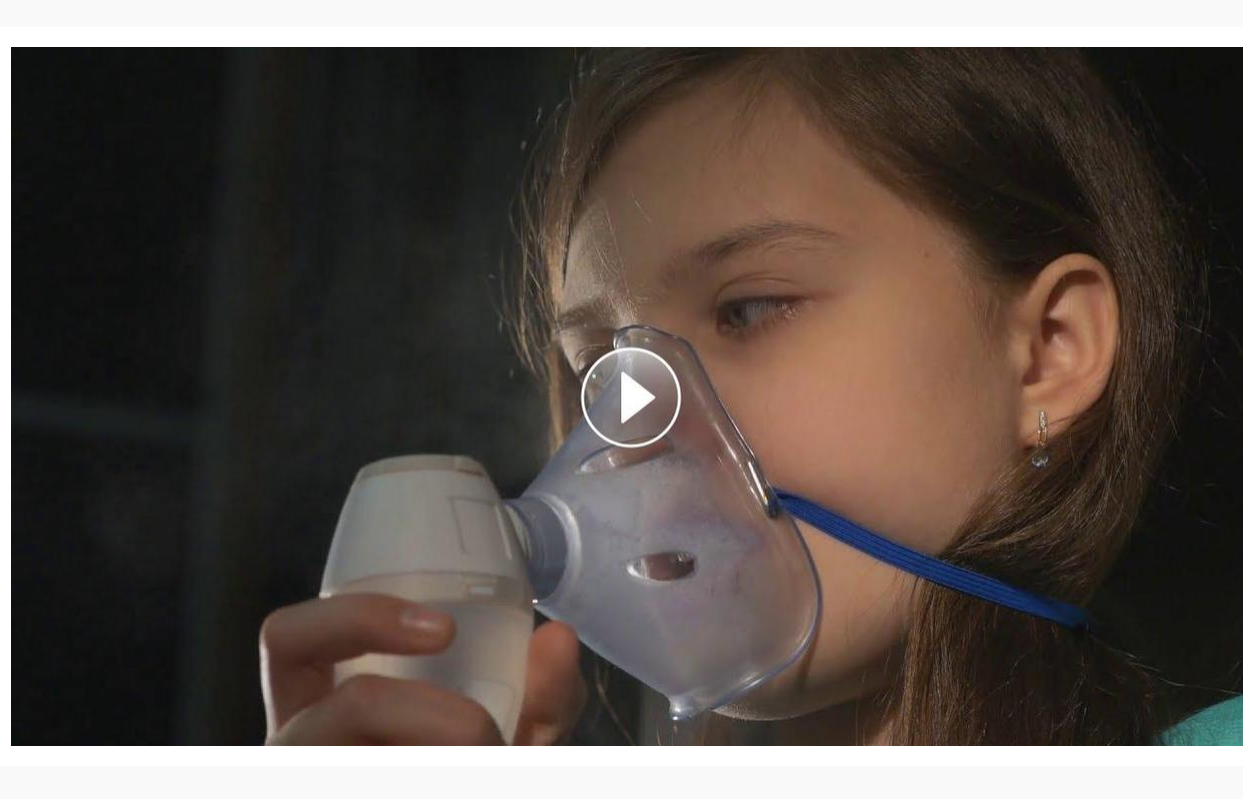
Arun Kumar, a Center for Networked Systems faculty member and a Computer Science and Engineering and HDSI professor, has been working with student researchers to [democratize deep learning](#) systems, so that smaller organizations and individuals can take advantage of these powerful technologies without breaking the bank.



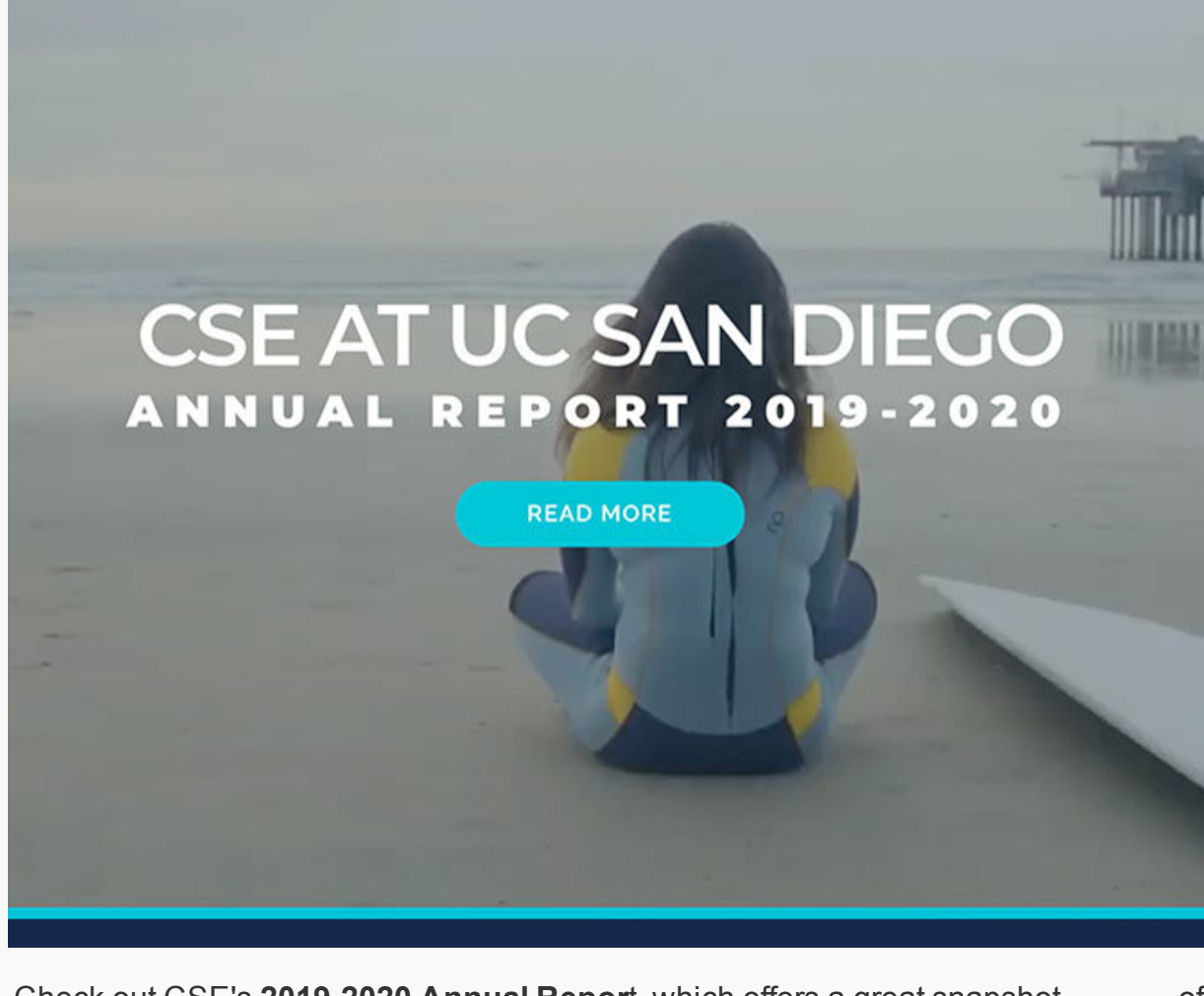
Arun Kumar

## CSE VIDEO HIGHLIGHT

Here's a short video about Shlomo Dubnov's work using sound to detect COVID-19.



**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).



Check out CSE's [2019-2020 Annual Report](#), which offers a great snapshot of the department's achievements.

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