The Interview Column

by

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KNOW THE PERSON BEHIND THE PAPERS

Today: Keren Censor-Hillel

Bio: *Keren Censor-Hillel is an Associate Professor in the Department of Computer Science at the Technion. She completed her PhD thesis, for which she received the Principles of Distributed Computing Doctoral Dissertation Award, in 2010, and joined the Technion in 2013 after being a Simons Postdoctoral Fellow at MIT. Censor-Hillel received an Alon Fellowship, awarded by the Israeli Academy of Science, in 2013. She is a recipient of a 2016 Krill Prize given by The Wolf Foundation and a 2018 Henry Taub Prize for Academic Excellence. Her research is supported by grants from the ISF, NSF-BSF, and an ERC Starting Grant by the European Commission.*

We ask all interviewees to share a photo with us. Can you please tell us a little bit more about the photo you shared?

   Keren: In the photo you can see me hiking. A keen-sighted observer may see some desert surrounding me, which is my favorite hiking area in Israel. I love outdoor activities and sports, and try to find time for them on a daily basis. I also

Credit: Photo by photographer Yasmin Lahav.

share another photo, taken in my office, which is another place I hang out in quite a lot (well, at least in pre-COVID times, when this photo was taken).

Can you please tell us something about you that probably most of the readers of your papers don't know?

Keren: Since I have been working mostly from home lately (as many of us have), if you are reading a paper that I wrote starting March 2020, it is likely that there was a cat on my lap when I was typing into the paper's tex file.

Is there a paper which influenced you particularly, and which you recommend other community members to read?

Keren: The PODC 2006 paper "Computing separable functions via gossip" by Damon Mosk-Aoyama and Devavrat Shah was what got me interested in distributed graph algorithms. I read it in order to present it in a seminar-style class that I took as a graduate student. The paper shows how to compute separable functions in a distributed setting in a very neat way. The topic and paper intrigued me and got me into this research domain.

Is there a paper of your own you like to recommend the readers to study? What is the story behind this paper?

Keren: One of my highest-impact papers is "Algebraic methods in the congested clique", co-authored with Petteri Kaski, Janne H. Korhonen, Christoph Lenzen, Ami Paz, and Jukka Suomela. This paper gives distributed algorithms for matrix multiplication and shows their applications to distance computations and subgraph finding problems. There has been great progress in these fundamental research areas, and at the same time there are still some intriguing open questions, which I welcome everyone to join us in attacking.

When (or where) is your most productive working time (or place)?

Keren: I can work anywhere and even in noisy places, but to be most productive I do need relatively long chunks of uninterrupted time, as my context switching skills could use some improvement. Those who know me know that I am very strict in separating my working and non-working hours.

What do you do when you get stuck with a research problem? How do you deal with failures?

Keren: Failures are the opposite of getting stuck: Failures are inherent for any (research) progress. In many cases, a failure is a huge lead for a direction that doesn't work, and could come along with some insight that has a potential of being useful later. Getting stuck is a different story and can be much more discouraging. It usually makes me talk about the problem with anyone who is willing to listen, and I get back to it once in a while to see if a fresh look into it could bring some new insights.

Is there a nice anecdote from your career you like to share with our readers?

Keren: I started out as a Math undergrad and for some reason I thought that I would not enjoy computer science. Toward the end of my studies I took some TCS courses and those completely changed my view of computer science and I enrolled as a CS graduate student. I am very happy that I have this mathematical education, and I find it to be an important part of my scientific background.

Do you have any advice for young researchers? In what should they invest time, what should they avoid?

Keren: I'd suggest to complement one's research with additional scientific and academic activities. Although such activities require time, they are usually fun, and they almost always lead to new opportunities.

What are the most important features you look for when searching for graduate students?

Keren: I look for students who demonstrate creative thinking and good scientific writing skills, and with whom I enjoy the conversations. I typically take on

students only after some initial research period, so that we can coordinate expectations.

Do you see a main challenge or opportunity for theoretical computer scientists for the near future?

Keren: Opportunities are abundant, as theoretical computer science is about the foundations. The challenge is to stay relevant in order to maintain this importance of the field, by revisiting our lines of research once in a while.

How was your research affected by the pandemic? How do you think it will affect us as a community?

Keren: The pandemic brought many hardships and among those it has been having a substantial negative impact on my research. Still, I consider myself lucky, and I think that for some, perhaps especially the more academically younger researchers, the effect could be worse. I hope that the steps that we have been taking as a community in order to keep these researchers in the loop are helpful.

Please complete the following sentences?

- *My favorite movie is...* The Princess Bride. What can I say, I grew up in the 80's...

- *Being a researcher...* provides me with skills that are useful in other aspects of life. Patience, for example.

- *My first research discovery...* was in the area of coding theory. It is a very different area from distributed computing which I study now, but the thrill of new findings is ever the same.