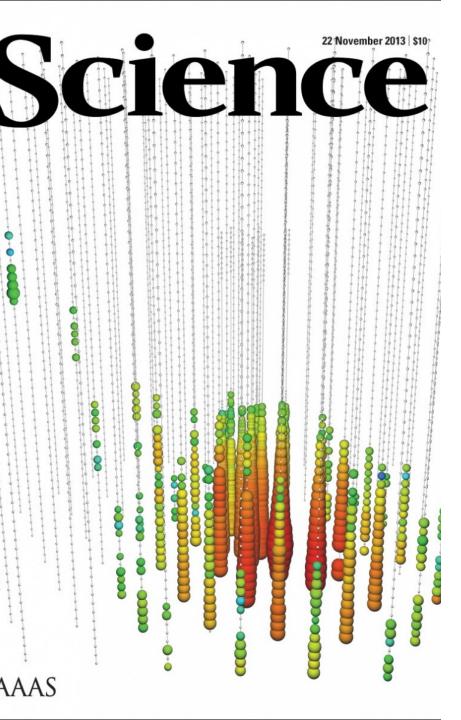
# Service, Science, and Startups: How they changed my research.

Chris Ré

Stanford



### Service & Science

Scientific Efforts

- IceCube Neutrinos from outside solar system
- GeoDeepDive, Medical Applications.

Fighting Human Trafficking with DARPA and many others

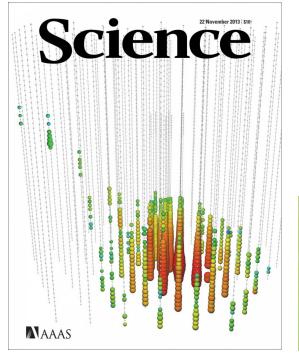
- Hundreds of arrests of some very bad people.
- Managed to keep running for almost a decade.

Work with the medical school

 Rare childhood disease search, radiology data guidelines, NIH/NHS and more

Resulted in few papers—but learned a ton.

### Service Highlights





The NEW ENGLAND

Kun

Hsing-Yu



2016 Presidential Award for Extraordinary Efforts to Combat Trafficking in Persons. Chris White.

the WHITE HOUSE PRESIDENT BARACK OBAMA

I was **not** on the Science paper. I was **not** named on the award. I did **not** get the medal. I was **not** the leader. I could **not** be more proud that I helped in something bigger.



Service: I want a meaningful life. Service to others makes life richer.It is a great perk of the job of a professor.

**Research**: When I started no one had an ML system.

• I needed to build them to learn the challenges.

### Startups

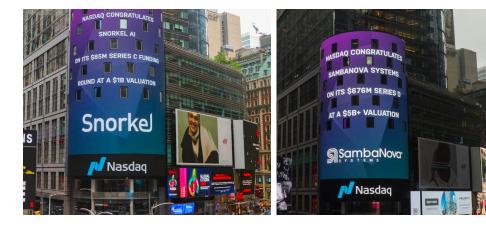
- Feng Niu Ce Zhang Mike Cafarella
- Cofounded and sold two companies to Apple
  - Lattice Data (with Mike and Feng on Ce's work)
  - Inductiv (Ihab and Theo)
- Cofounded and large: Snorkel & SambaNova
- Some more coming soon! I love it!

Factory. Company that helps build companies

- 1st capital in on tons of fun startups
- This is more fun that I ever expected.

**TORY** 

**One framing (Last Resort)** People start and join early startups when have skills no traditional job can exercise/reward.





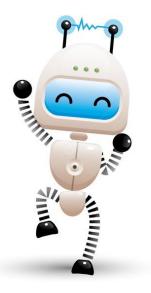


#### Theo Retkatsinas

Ihab Ilyas

Mike

### How this changed my research?



Want my research to have art-like quality to it.

- Open ended students in unexpected directions
- AI/ML has dreams—I love the crazy ideas!

Do what you like: I like math, coding, and studying.

• Not doing it was killing me pre-acquisition, thought a lot about quitting...

Clearer sense of how I do service, startup, or research. YMMV.

## A key aspect of my research now: People.

The point of the projects is to **develop people**.

- Albert and Beidi are 13<sup>th</sup> and 14<sup>th</sup> professors this year (both to CMU).
- Ines won Gene Golub Dissertation award in computational math, cofounded a company together.
- Nimit graduated from computational math and is headed to Citadel.
- Proud of helping them do what they want.

Students lead to new directions—and end bad ones.

• I can't keep up with new ideas without them.

Best of academia: students.







Beidi Chen



Ines Chami



Nimit Sohoni

### Parting Thoughts

**Students and Academics**: you're paying a lot of money to do this job. Take advantage—avoid being industry lite! Industry is doing great!

• This job is supposed to be fun and nourishing.

Service to others and your community <u>can</u> be part of your work

• ... and I don't mean program committees ...

**Research** is moving so quickly, and it's so exciting!

• Ridiculous ideas today are tomorrow's reality.