Feedback: Economic Theory and the Tech Industry

Techsuyo

by S. Bigio (UCLA)
on October 20, 2020

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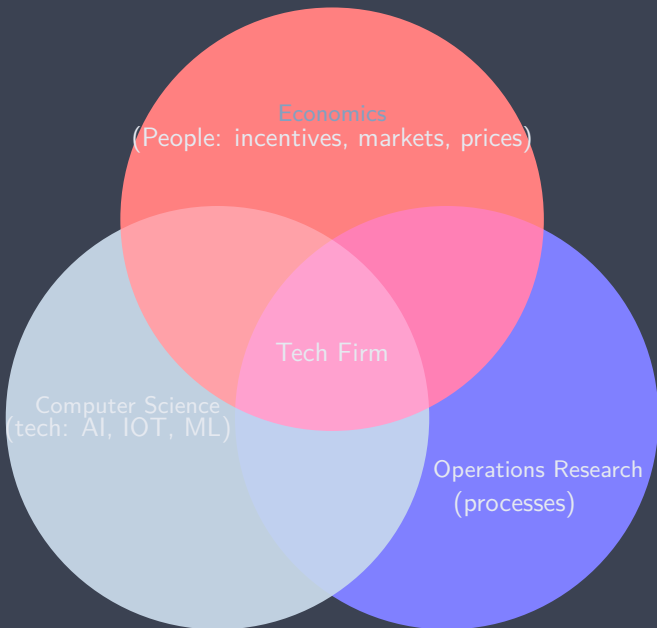 - ⋆ why the heck am I talking here?

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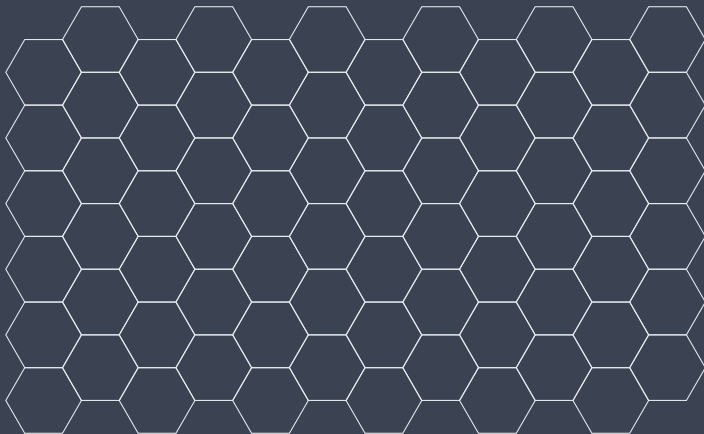- ⋆ why the heck am I talking here?

Programming since 1988 :)
- ⋆ actually taught coding for economists (U. Pacifico '03-04)
- ⋆ numerical methods, part of every day job
- ⋆ ...and a personal thing to say

Economics
(People: incentives, markets, prices)

Tech Firm

Computer Science
(tech: AI, IOT, ML)

Operations Research
(processes)

How to Design Prices?

* Keith Chen: "Dynamic Pricing in a Labor Market: Surge Pricing & Flexible Work on Uber"

Welfare Loss given Initial Spread and Rate Response

* France 24 (Documentary) China: 'social credit'

* Q: How many economists does it take to change a light bulb?

> Economics is Percolating Tech

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* A: You need 999.5. Need 10 theorist to theorize how to change the light bulb, 989 empirical economists to determine which theory is "correct" and one graduate student (counts as half) to actually change the bulb.

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* Point: you don't need an economist to build a car or run a hotel
* You may need one to understand markets, customer, and supplier behavior (especially useful in tech)

* Susan Athey & Michael Luca "Economists (and Economics) in Tech Companies" Journal of Economic Perspectives
    * and a video for lazy souls

> **A table from Athey and Luca (link above)**

Table 1
Examples of Tech Companies That Have Hired PhD Economists

Alibaba	Forkcast	LinkedIn	Redfin
AirBnB	Glassdoor	Lyft	Ripple
Amazon	Google	Microsoft	Rover
AppNexus	Granular	Netflix	Trulia
CoreLogic	Groupon	Nuna	Uber
Coursera	Houzz	Oath	Upwork
Dstillery	Huawei	OpenAI	Vericred
Didichuxing	IBM	Pandora	Visa
Digonex	Indeed	Pinterest	Walmart
eBay	ING	PoliticalSheepdog.com	Wealthfront
ECONorthwest	Intel	Prattle	Yahoo!
Expedia	Kensho	Quantco	Yelp
Facebook	Lending Club	Quora	Zillow

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Dstillery	Huawei	OpenAI	Vericred
Didichuxing	IBM	Pandora	Visa
Digonex	Indeed	Pinterest	Walmart
eBay	ING	PoliticalSheepdog.com	Wealthfront
ECONorthwest	Intel	Prattle	Yahoo!
Expedia	Kensho	Quantco	Yelp
Facebook	Lending Club	Quora	Zillow

* Economsits whose work I've read in past:
  * Microsoft|Ripple: Susan Athey, Chief Economist & Consultant
  * Amazon: Patrick Bajari, Chief Economist and his job description
  * Google: Hal Varian, Chief Economist
  * UBER: Keith Chen, Chief Economist
  * Many more who collaborate with eBay, Facebook, Lending Club, Zillow

Econometrics

- ⋆ Big data: redoing econometrics Varian's Article Bajari et al.
- ⋆ Inference: causal inference in tech environments Athey's video "Machine Learning and Causal Inference for Policy Evaluation"

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Search & Matching Theory
- ★ over-the-counter assets | labor market | dating | transportation An application by Buchholz on Taxi Market

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Auction Theory & Market Design & Pricing Mechanisms

⋆ ad-auctions | allocating resources | Varian explaining Google's Auction system Alwyn Roth's Lecture

Payments & Game Theory

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Network Economics
- ★ referrals | propagation | contacts (virality) | resilience Matthew Jackson's Google Lecture

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Competition (creating markets)
- ⋆ where to sell?

How to think of the Price of Information and Privacy
 ⋆ How to think of goods that don't have a price Jones and Tonetti

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Regulation
- ⋆ How to think of concentration?
- ⋆ Or people losing jobs? National Bureau of Economic Research Book