Apollo-Rokwire: Infodemics Management Framework

Health Resilience and Health Equality

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Infodemics = Information + Epidemic



Broader Impacts:

- Health Security
- Food Security--Food Supply Chain
- Economic Security
- Social Security
- etc.

Challenges We Are Facing

Platform

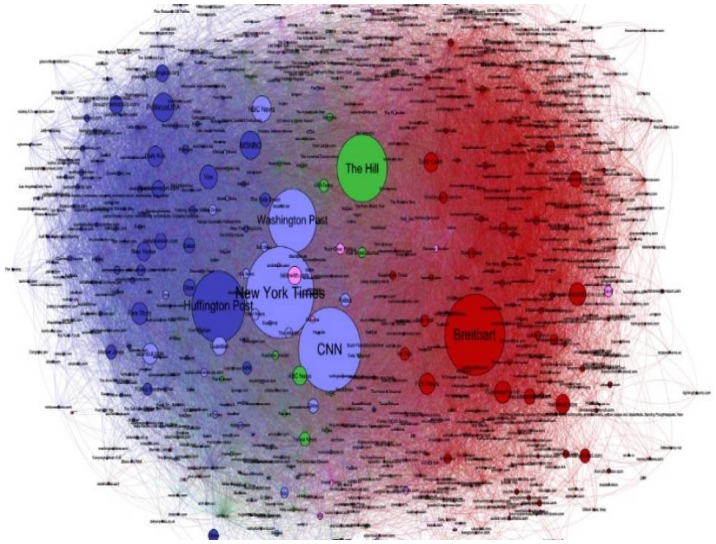
Bloomberg Businessweek

Facebook Built the Perfect Platform for Covid Vaccine Conspiracies

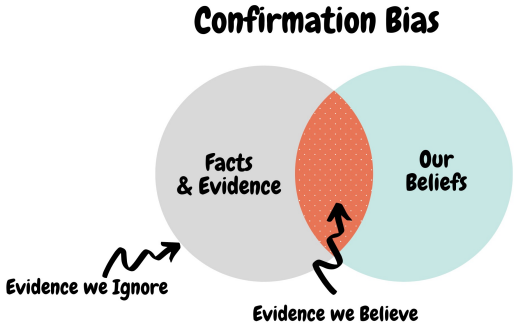
Mark Zuckerberg wanted to make his social network a reliable source about the pandemic. Instead he's helped spread misinformation about vaccines causing infertility.

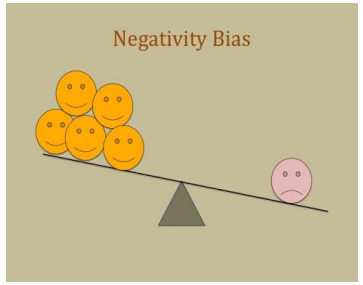
Information Sources



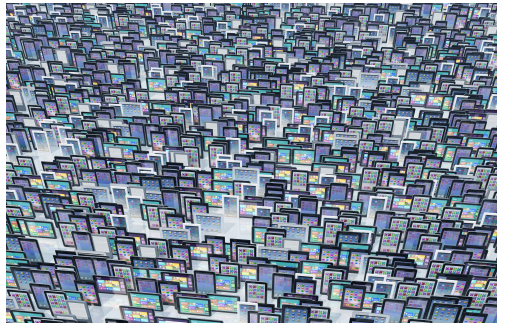


Humans' Behaviors



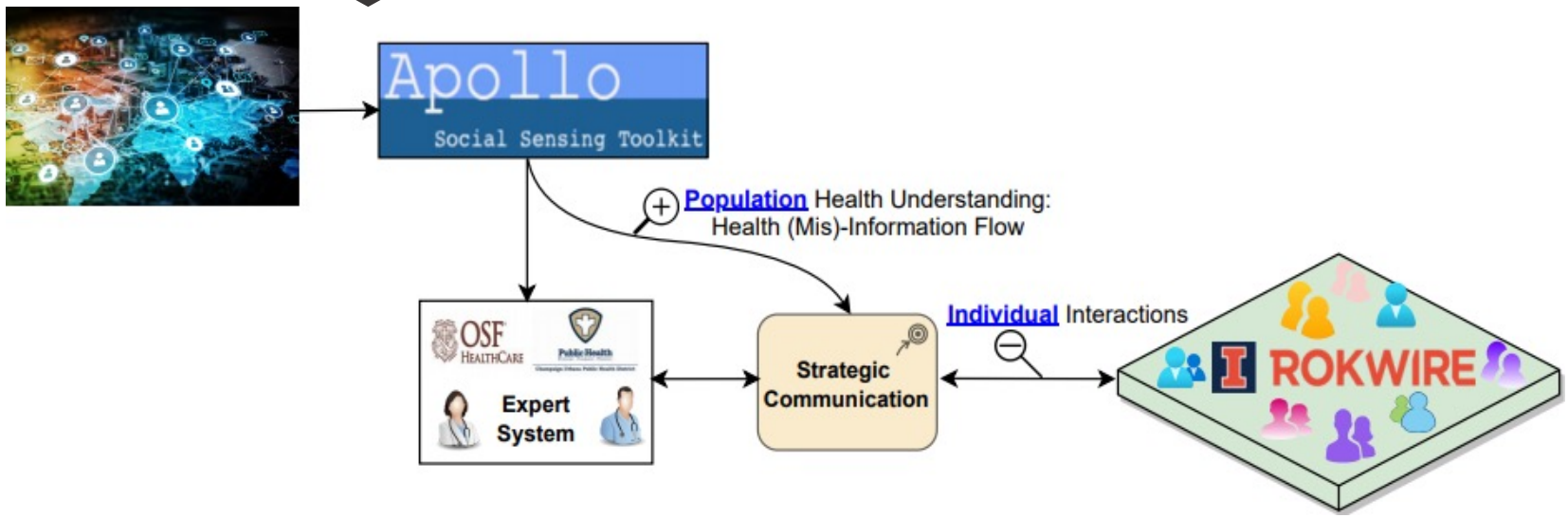


Information Overload/Chaos





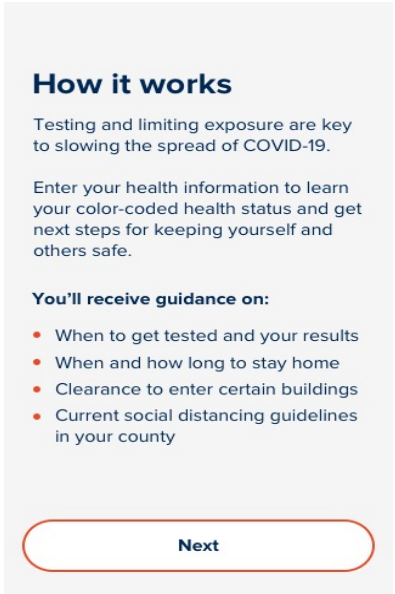
Our Solution: Apollo-Rokwire Framework

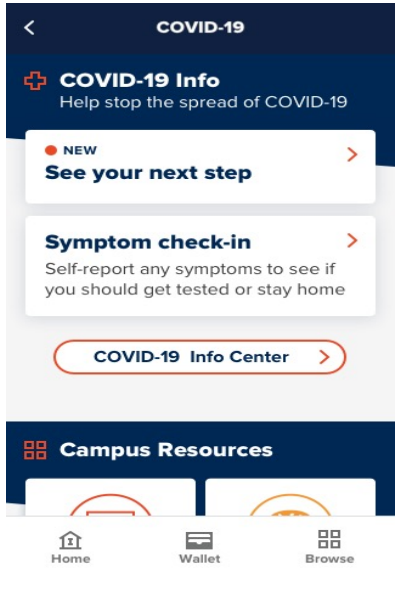


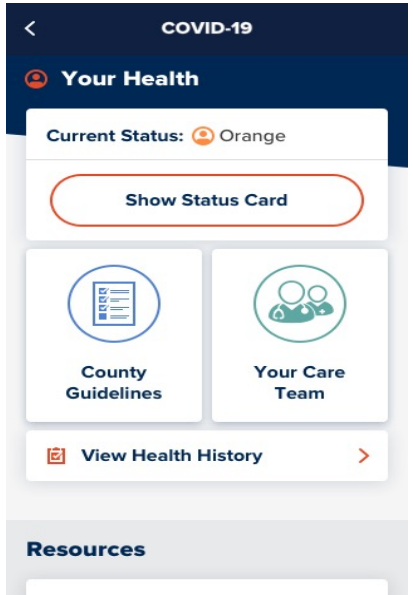
Rokwire: a mobile platform for smart and healthy communities.

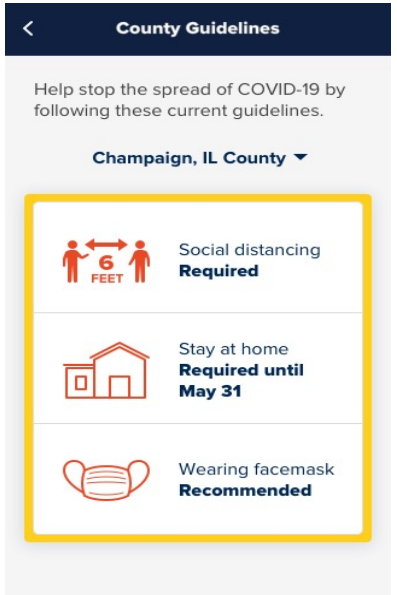
Achievements:

- delivered around 5000 to 17,000 test results daily at UIUC
- > 15 University adoptees, and being evaluated by dozens of high schools, the World Bank, the Smithsonian Institution, and several cities (e.g., Chicago, IL; Providence, RI)





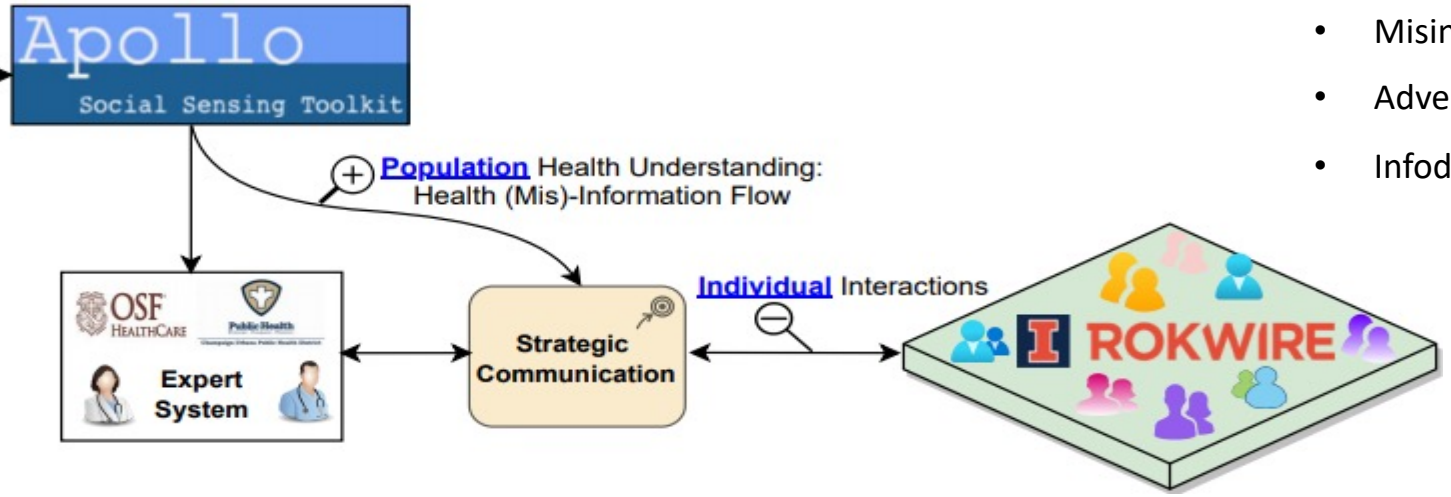






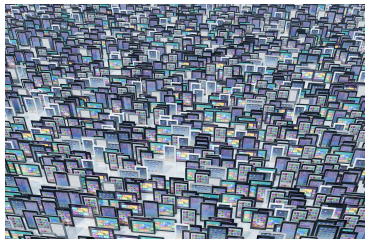
Apollo: 3D Social-Information World





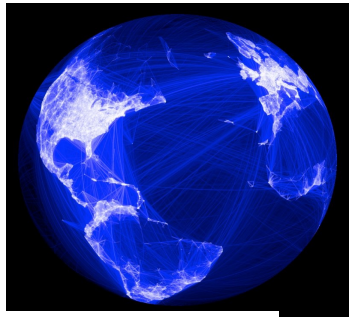
Apollo:

- Misinformation Detection
- Adversary Information Sources Detection
- Infodemic Flow Tracking



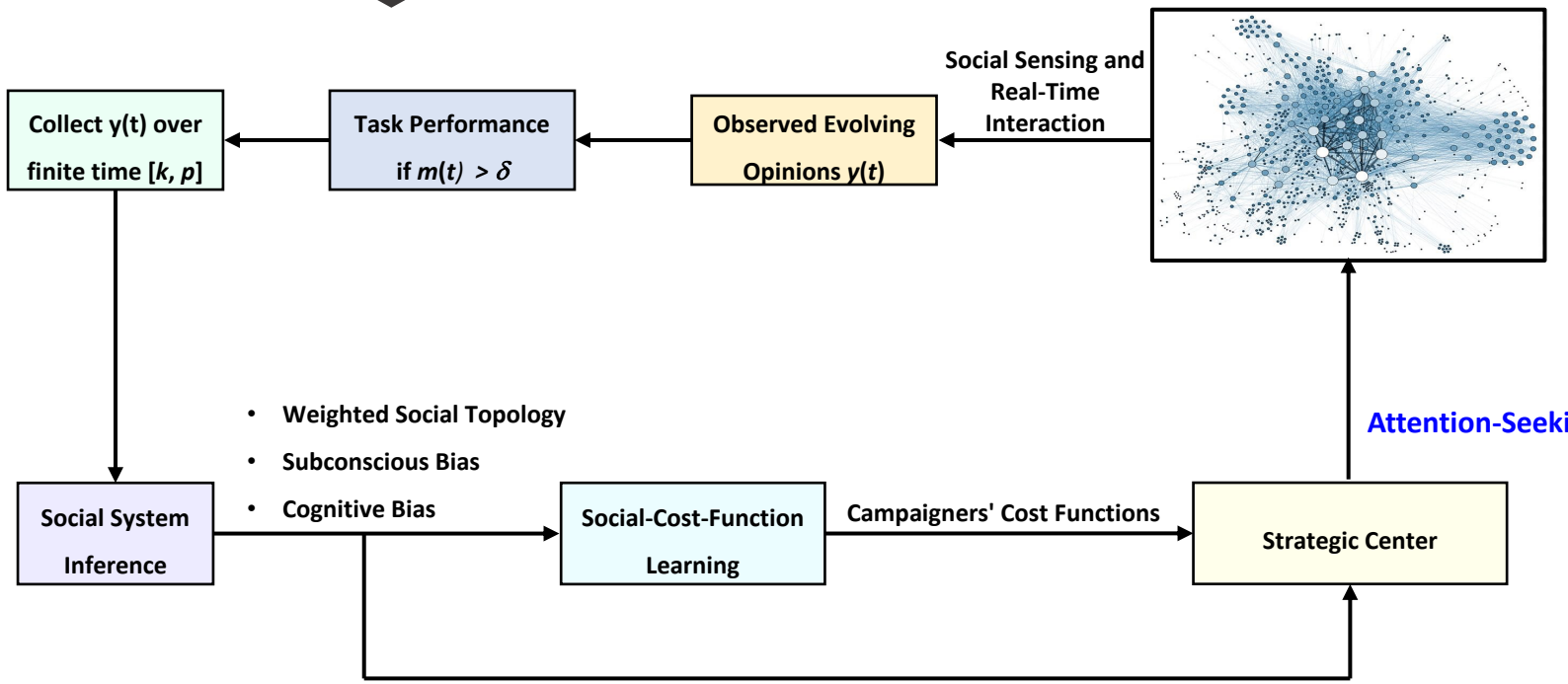


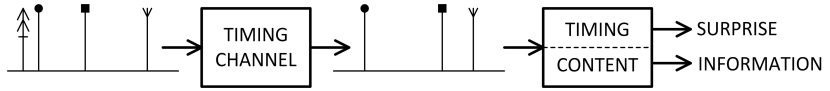




- **Rokwire**: not yet for entirely new health crisis
- **Apollo**: distinguished in the higher potential to provide early warnings and inform future forecasts

Strategic Communication: Fight Infodemics





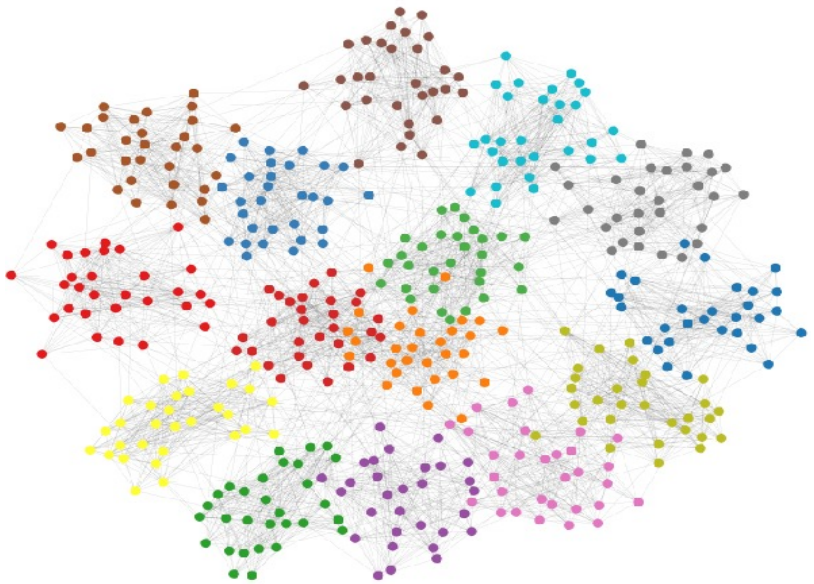
What can we learn from infodemics/misinformation/disinformation/fake news/rumors?

- ❑ **Surprising/Novel/Attractive**
- ❑ **Human Bias**
- ❑ **Timing**

Community-Varying Messaging

Community Detection:

- ❑ **Social-economic condition**
- ❑ **Cognitive Bias**
- ❑ **Education**
- ❑ **Political ideology**
- ❑ **Social network structure**
- ❑ **etc.**



ABC NEWS/WASHINGTON POST POLL: Coronavirus Vaccine
EMBARGOED FOR RELEASE AFTER 7 a.m. Tuesday, June 2, 2020

27% Unlikely to be Vaccinated; Republicans, Conservatives Especially

Unpersuaded by more than 100,000 pandemic deaths in the United States, 45 percent of strong conservatives, four in 10 Republicans and nearly as many evangelical Christians say they'd be unlikely to get vaccinated against the coronavirus, even for free.

Our Team

Naira Hovakimyan



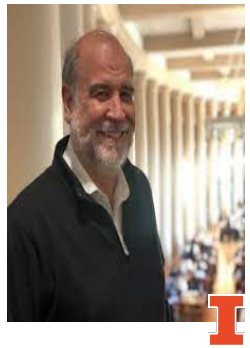
Tarek Abdelzaher



William Sullivan



John Paul



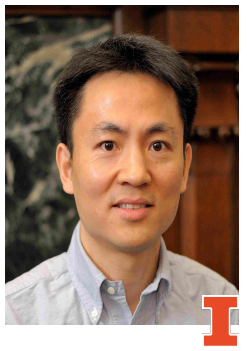
Heng Ji



Lav Varshney



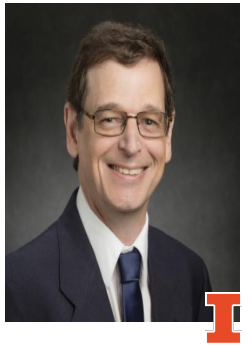
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Stakeholders

OSF HealthCare

ROKMETRO

Public Health
Prevent. Promote. Protect.
Champaign-Urbana Public Health District

City of CHAMPAIGN

CHAMPAIGN COUNTY
ILLINOIS
ECONOMIC DEVELOPMENT CORPORATION

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