

Panel: Industry-Academia Partnerships

Benjamin Zorn (Microsoft)

Beth Mynatt (Northeastern University)

Chris Ramming (VMWare)

Jennifer Rexford (Princeton University)

Vivek Sarkar (Georgia Tech)

Moderator: Divesh Srivastava (AT&T)

Industry-Academia Partnerships: Why?

Industry

- ◆ Historically:
 - Industry hired most students.
 - Industry did applied research.
- ◆ In recent years:
 - Foundational research in AI/ML, Cloud, etc. done in industry.
 - Industry needs richer and more diverse talent.

Academia

- ◆ Historically:
 - Academia trained students.
 - Academia did basic research.
- ◆ In recent years:
 - Academia needs resources to do empirical research in AI/ML.
 - Academic research faculty and students can provide the talent.

Industry-Academia Partnerships: Prior Work

- ◆ *Future of computing research: Industry-academic collaborations.*
 - Based on 2015 industry round table co-sponsored by CCC.
 - Nady Boules, Khari Douglas, Stuart Feldman, Limor Fix, Gregory Hager, Brent Hailpern, Martial Hebert, Dan Lopresti, **Beth Mynatt**, Chris Rossbach, Helen Wright.
- ◆ *Evolving academia/industry relations in computing research.*
 - Follow-up in 2019 to the 2015 CCC document.
 - Shwetak Patel, **Jennifer Rexford**, **Benjamin Zorn**, Greg Morrisett.
- ◆ *Ad hoc CRA committee report on industry/academia interactions.*
 - Based on 2020 survey results from 100+ CS department chairs.
 - Nancy Amato, Susan Davidson, Eric de Sturler, David Ebert, Mark Hill, Charles Isbell, Shwetak Patel, **Chris Ramming**, **Vivek Sarkar**, **Divesh Srivastava**, Marvin Theimer, **Benjamin Zorn**.

I-A Partnerships: Trends and Opportunities

◆ Trends:

- Significant engagement between computing faculty and industry in the form of extended joint appointments, e.g., in AI, with an **increasing trend**.
- Increasingly, companies are highly motivated to **engage both faculty and graduate students** working in specific technical areas.
- Positive aspects of I-A interactions **clearly outweigh** the negatives.

◆ Opportunities:

- Create **best practices report** for departments and companies in industry-academia engagements related to computing research.
- Potential for **academic principles/values** to inform future industry products and R&D roadmaps through increased collaborations.
- Form **new CRA committee** focused on fostering, amplifying, and sustaining industry's contributions to computing research.

This Panel: Structure

- ◆ I will ask the panelists to introduce themselves and will ask them three broad questions about industry-academia partnerships.
 - Q1: **Why now?** What are the new emerging trends?
 - Q2: What makes for win-win **research** partnerships?
 - Q3: How can I-A partnerships help in the future of CS **education**?
 - Brief closing statements by panelists.
- ◆ Audience interaction.
 - **Relevant questions** for panelists, **comments** are always welcome.
 - I will manage audience interaction to keep panel on track.

Panel Question #1

**Why should we focus on Industry-Academia partnerships now?
What do you see as new emerging trends for these partnerships?**

Panel Question #2

What makes for a win-win research partnership between industry and academia? What are the red flags that need to be avoided?

Panel Question #3

What are your thoughts on the role of I-A partnerships in the future of CS education and teaching of students?

Closing Statements

- ◆ Benjamin Zorn (Microsoft)
- ◆ Beth Mynatt (Northeastern University)
- ◆ Chris Ramming (VMWare)
- ◆ Jennifer Rexford (Princeton University)
- ◆ Vivek Sarkar (Georgia Tech)

Thank You!