

# PhD Non-Academic Career Paths & Job Search

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*(...and thanks to authors of similar presentations from previous workshops!)*

# Our Stories

## *Alan Bivens*

- PhD from RPI in 2003
- Currently:  
Senior Manager, Trusted Identity  
Development – IBM Blockchain  
IBM Master Inventor
- Previous:  
Senior Manager  
Principal Research Staff Member  
IBM Research
- Research Areas: Machine  
Learning, Distributed Computing,  
Analytics, Augmented Reality
- My jobs have included industrial  
research in systems and services  
as well as jobs outside of research.

## *Ramón Cáceres*

- PhD from Berkeley in 1992
- Currently: Software Engineer at  
Google
- Previously: Industrial research at  
AT&T and IBM. Product  
development at several startups.
- Research areas: Systems and  
networks. Mobile computing  
systems and applications.
- Grew up in Dominican Republic

# What Non-Academic Careers Exist for PhDs?

- First of all: you are not a failure as a PhD if you don't get (or don't even want) an academic job! Far from it!
- There are plenty of great non-academic career paths where PhDs can be successful:
  - Industrial labs
  - Government labs
  - Product development
  - Startups / Entrepreneurship
  - Outside the tech industry: finance, health, public sector
- Even flexibility to move back and forth

# What Is Industrial Research All About?

- Can get the best of industry resources and academic research both at the same time!
- Industrial research jobs lie on a spectrum
  - Sometimes look one year ahead of product development, sometimes many years ahead!
- Many ways to innovate!
  - Writing papers
  - Filing patents
  - Product development
  - Collaboration with other companies, academia, etc.
  - Societal impact

# A Few Words on Publishing

- There are many opportunities to publish when in non-academic PhD jobs
  - Many industry research roles will consider it part of your job (included in your evaluations, etc.)
  - Many summer intern projects result in publications
  - Academic and government lab collaborations will frequently result in publications
- There are likely processes to follow
  - Protect the intellectual property in the paper by first filing a patent
  - Focus areas and focus venues
  - In some cases, super sensitive areas will have temporary restrictions to preserve first-mover advantage.



# Finding a Non-Academic Job as a PhD

- Build your professional network (conferences, workshops, visiting speakers at your school, etc.)
- Establish a good online presence
- Pay attention to industry focus areas
- Create a concise c.v.
- Consider **your** preferences to help guide your search.
  - Recall there are many different jobs. What kind would help you reach your career and personal goals?
  - Also realize it is possible to change jobs over time. You are not making a decision for life.

# Internships

- Recommended for multiple reasons.
- Many internships lead to offers for permanent jobs.
- Teach a lot about specific positions at specific employers, also about more general job types, employer types, and industries. Help refine your preferences and goals.
- Provide opportunities for longer-term career networking.
- When doing one, try to reach out beyond your immediate project and mentor, both to learn and to network.

# Interviews

- Don't underestimate them, but don't be scared either
- Widely different kinds (e.g., research vs. development)
- Ask about format in advance (e.g., talk vs. no talk, mix of coding vs. design questions, whiteboard vs. computer)
- Find sample questions online and/or in books
- Practice answering questions in expected format
- Ask for clarification if question is vague
- Talk through your thinking while arriving at a solution
- Ask questions to help figure out if you want to work there



# Offers & Negotiations

- Congratulations! Don't be afraid to negotiate. It's an important part of the process. A few hours of discomfort can make an enormous difference.
- This is your chance to set terms
- Try not to give the opening bid
- It's good to have competing offers
- Negotiate \$\$\$ if you have a concrete alternative, or can demonstrate why they need to meet your number
- Take time to understand offer / bonuses
- Negotiate on perks if they cannot match \$\$\$

# Having a Successful Non-Academic Career

- Think of yourself as your own mini-startup
  - Do good work, market yourself, avoid bad press
- Find your work-life balance
- Success in academia is about papers and grants
- Success in industry is about making the company \$\$\$
  - ...but what that actually means differs for each job
  - ...and that still leaves plenty of room for personal and professional growth along the way
- Every job is different; study the success of others and seek out mentors to help you adjust to your particular situation

# Questions for Discussion

(shamelessly borrowed from previous presenters)

- Do internships matter?
- How do I showcase my technical skills?
- Can I publish papers? Contribute to open source projects? Work with students?
- How do I find and get on projects?
- How are projects started?
- What is the interview process like?
- How important is teamwork versus individual work?
- How are my work goals set?
- What is the career path of a researcher in your organization?
- Is it possible to switch during your career: Industry/Academia/National Laboratory/Funding Agency/Non-Profit?

