PhD Non-Academic Career Paths & Job Search

Alan Bivens, IBM
Ramón Cáceres, Google

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

2019 CRA URMD Grad Cohort Workshop
Our Stories

**Alan Bivens**
- PhD from RPI in 2003
- Currently: Senior Manager, Trusted Identity Development – IBM Blockchain
- Previous: Senior Manager, Principal Research Staff Member
- 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.
- 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?