Academia vs Industry: Choose Your Own Adventure

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2022 CRA-WP IDEALS Workshop
My Significant Moments

1. Immigrated from Dominican Republic

2. Encouraged to consider a different career path

3. Distinguished Alumni Award

4. Caltech Aeronautics & Materials

5. Proud mother of 3 strong, intelligent, kind daughters

Karina Edmonds
SAP | SVP Head of Academies & University Alliances
About Dilma

NOW

7.5 years in different roles:
Professor (since 9/1/20) + interim director of the TAMU Cybersecurity Center
Professor and part-time Associate Dean (2019-2020)
Department Head and Professor (2014-2019)

BEFORE

Principal Engineer & Manager
Qualcomm Research
2 years

Researcher; Manager
IBM T.J. Watson Research Center
12 years

Assistant Professor
University of São Paulo, Brazil
1996-2000

EDUCATION

PhD
Georgia Tech

BS, MS in Computer Science
University of São Paulo, Brazil

CURRENT ROLE

Research Areas: Distributed Systems, Data Science, Cybersecurity, CS education
Multidisciplinary efforts: Food Safety, Energy Systems, Transportation, Personalized Education

FUN

BOOK CLUB

CRA-WP
Computing Research Association
Women in Participation
A vs B: So Simple, Right?

**Industry** could be:
- Engineer
- Research scientist
- Eng manager
- Corporate Leadership
- Consulting
- Government
- Start-up

**Academia** could be:
- Professor at research-oriented university
- Teaching-oriented position
- Academic administration
- Research associate
Turn and Talk to Your Neighbor

What is your plan?
Industry vs Academia vs Undecided?

Why?
How do you enjoy spending your time?
What is Important to You?

Must-haves vs. Nice-to-haves?

- Stability vs. Change?
- Excelling in Your Career?
- Having Nice Things?
- Physical Fitness?
- Schedule Flexibility?
- Control of Technical Agenda?
- Supporting Others?
- Minimizing Effort vs. Being Challenged?
- Living Near Relatives?
- Having a Family?
- Visibility?
Does What You’re Doing Align With What’s Important to You?

- What you value most could change over time
- Absolutely no one is in your exact situation
- A PhD gives you options
- Be true to yourself and your values
- Don’t be afraid to course correct
Academic Careers
Academic Career Ladder

Professorial Ranks
- Assistant: Tenure-track, 5-7 years
- Associate: Usually with tenure
- Full (no set time limit to achieve)
- Chaired Professor – endowed

Administrative Ranks
- Department Chair/Head, Dean, Provost, President

Instructor
- Can vary significantly on course load
- Some roles offer tenure equivalent

Postdoctoral/Research Associate
- Usually on “soft money”
Traditional Professor/Instructor Roles

Research universities
• Ph.D. program - emphasize research, funding

Teaching-oriented colleges
• B.S. program – emphasize teaching, service

Public vs. Private
• Impacts funding structure
What can I do now to prepare for an academic job?

• **Research**
  – Apprenticeship: learn from advisor, write papers, collaborate
  – Grant writing: Help out on proposals, read successful proposals
  – Corporate connections (for funding, student job placement)

• **Teaching**
  – Guest lectures, teaching assistantships
  – Professor-in-training programs, courses

• **Service**
  – Organizing student organizations/support groups – Women in CS
  – Working on department committees
  – Volunteering at conferences
Industry Research Careers
## Industry Careers

<table>
<thead>
<tr>
<th>Role</th>
<th>Visibility</th>
<th>Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineer</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Research scientist</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Eng Manager</td>
<td>Medium (all internal)</td>
<td>Medium</td>
</tr>
<tr>
<td>Corporate leadership</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Consulting</td>
<td>Low</td>
<td>Varies/Low</td>
</tr>
<tr>
<td>Government</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Start-Up</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
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Same role can vary a lot from group to group
The Engineering Ladder

8. Principal Engineer
7. Senior Staff Engineer
6. Staff Engineer
5. Senior Engineer

Up or Out within 3 Years

New PhD Grad

New BS Grad

Implications: Pay, Expectations
Career Change
Moving Between Industry and Academia

• From University to Industry
  • Must build real systems
  • Establish visibility and knowledge in industry
  • Need to pass a technical interview (coding, complexity)

• From Industry to University
  • Must continue publishing
  • Establish visibility and reputation in research community
  • Need to pass an academic interview (presentation, strong publication record)
Turn and Talk to Your Neighbor

What (if anything!) did you hear that changed or confirmed your view of these paths?

(Is it ok your partner share it with the rest of us?)
Our “change” stories …
All Choices are Valid!

- Do what you love
- If you don’t love what you’re doing, do something else
- A PhD gives you that option
- Take ownership of what you do now and what you want to do next
Questions?