PhD Non-Academic Careers and Job Search

Jamika Burge, Capital One

Sujata Banerjee, VMware Research

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About Jamika…

jamikaburge.com | @jdburge

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More about Jamika…

jamikaburge.com | @jdburge

Design & Technology Concepts, LLC

Spelman College

BRIGHT-CS

Where Jamika Works

Capital One (COF)

- Established in 1994
- HQ in McLean, VA
- Acquired Adaptive Path in 2014

One Design

- Team of 450+ designers
- Collaborate with Product, Tech Divisions
- Products: Mobile Wallet, CreditWise, Eno

Jamika's advice

- Take some time to think about your personal and professional philosophies. Allow that to be an important part of your decision-making.
- It's OK to explore new opportunities. Having several good career opportunities – especially in tech – is the #newnormal.
- No one can do what you can do, the way you do it. Never feel that you cannot move to a new opportunity if you don't feel like a valued contributor.
- Be open to trying something new, especially if it challenges you.

Sujata Banerjee

VMware Research

Senior Staff Researcher

Research co-Director, External Research and Emerging Technologies

Prior Career

- Hewlett-Packard Labs
  Distinguished Technologist and Director, Networking Systems Research Group
- University of Pittsburgh
  Associate Professor, Telecommunications Program

Education

- Ph.D., University of Southern California (USC)
- B.Tech. and M.Tech.: Indian Institute of Technology (IIT), Bombay

My Research

Programmable Networks, Software Defined Networking (SDN)
Network Functions Virtualization (NFV), Energy Efficient Networking, Measurement

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Where Sujata works: VMware

Founded in 1998 - 21 years old
Commercialized x86 virtualization
Fortune's Best 100 Places to work in 2018

VMware Products and Solutions Areas

- Software Defined Datacenter
  - Hybrid cloud
  - Server, network, storage virtualization & management
  - Security
- Desktop virtualization
- Telco/NFV
- Mobility management, Edge/IoT

VMware Research

Focus on technology disruptions
Both internal research and external research partnerships
Example areas: blockchain, programmable data plane, distributed consistency, reprogrammable hardware, remote memory, big data

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Advice from Sujata

Evaluate what you really enjoy doing to define your role

- Research vs Building products vs Management
- Design vs implementation; Tangible vs open ended problems

Work on hard and soft skills

- Learn to network: Go to conferences, meet-ups, present your work well
- Learn to “sell” your ideas

Need Depth and Breadth to succeed

- Inter-disciplinary work often has big returns
- You may need to work in large diverse teams for big impact

Be ready for change

- Watch for technology trends
- Be ready to learn and “re-invent” yourself
- Don’t stay in a role that you don’t enjoy

Let’s jump right in!

What is a YOUR Dream Job?

Figure out:

- Where to live?
- What kind of work?
- What direction and how much to grow?

Industry/Government/Research Lab jobs come in many flavors

- Research
- Engineering
- Development
- Design
- Management
- Consulting
- Start-up

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Poll: Have you done an internship?

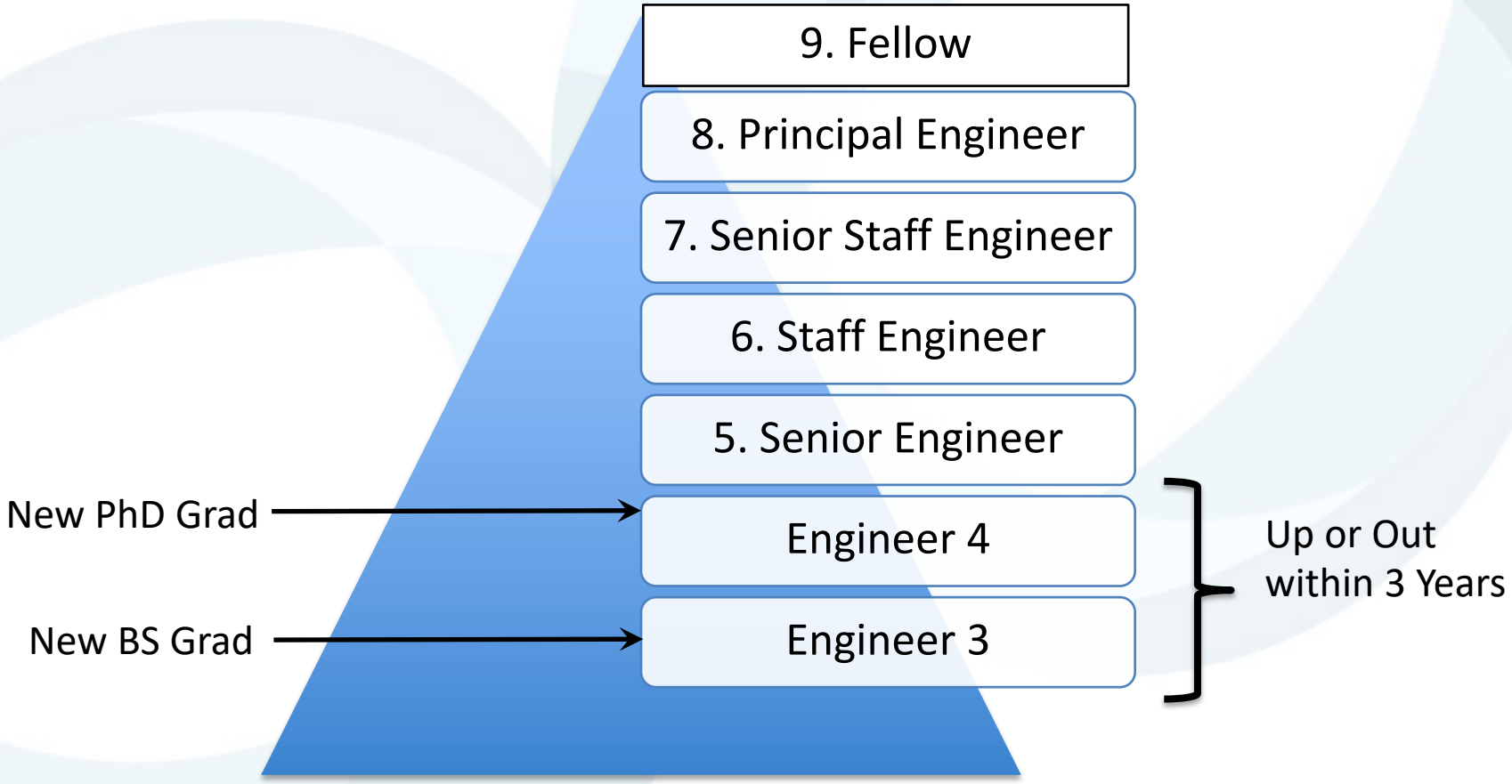
YES?

NO?

Try before you buy - Get an internship!

The Engineering Ladder

Titles may vary across companies



Applying for Jobs

- Less regulated schedule than academia
- Your network will matter
- Increase your visibility
  - ✓ Volunteer at local events and conferences
  - ✓ Go to talks by people from industry (and academia) visiting your school. Meet with them.
  - ✓ Give polished presentations at conferences
  - ✓ Target networking opportunities at conferences
  - ✓ Stay in touch with school alumni
  - ✓ *Do you have a LinkedIn profile?*
- Attend bigger events: GHC, career fairs, CRA-W grad cohort
- Apply to positions on employers website and follow up!

Things to consider

- There is a ton of variability in industry jobs
- Sometimes people don't understand the value of the Ph.D.
- If you are trying to get an engineering job make sure your coding skills are visible in CV and up-to-date (e.g., on github)
- You have learned to deal with ambiguity and find solutions. This is valuable.

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Phone Interview

- It's a pre-screen
- Do your homework
  - ✓ Lookup the person who contacted you for screen
  - ✓ Lookup the group/team
  - ✓ Read the open position (open req) closely for details that you might have missed
- Mock/practice phone interviews
  - ✓ Have a short technical pitch on your thesis ready
  - ✓ Opportunity to ask your questions – technical focus of the group, work environment, etc.

On-Site Interview

Logistics

- Give yourself plenty of time to get there, fly in the night/day before
- Show up on time (or early)
- Dress professionally
- Be confident and enthusiastic about your work

Make sure you understand format

- Talk? Whiteboard interviews? Meetings?
- Ask for the list of people ahead of time, research them
- Ask for breaks if you need them, take a breath in restroom, carry a snack
- Lunch/dinner are interviews, stay professional

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Interview (2)

- If there is a talk (same as academic)
  - ✓ Rehearse, rehearse, rehearse
  - ✓ Have polished slides: call out important points, use visual material, dig deep technically
  - ✓ Be professional when answering questions but don't let them de-rail you
- Don't be offended if they didn't have time to read cv/papers closely or attend talk
- Ask questions: your chance to figure out if you want to work there
- Is this a place you can see yourself?

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Offers

- Congratulations!
- Negotiate whatever you care about
  - ✓ Start date
  - ✓ Salary (even if outside your comfort zone)
  - ✓ Signing bonus
  - ✓ Stock options
  - ✓ Moving package
  - ✓ Campus and flexibility
  - ✓ Presenting work at conferences
  - ✓ Consider all *strong* offers

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Backup Questions

- 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?

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Thank you!

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Comparisons: Industry, Academia, Government

Academia	Industry (other than Research)	National Lab or Industrial Research
Active publishing in top tier conferences	Must build “real” systems	Mix of building “real” systems and publishing
Active collaborations with academia	Up-to-date technical skills	Active collaborations with labs and academia
Establish visibility in research community	Understand business roadmaps	Address agency or company mission critical problems
“Soft” money	“Hard” money	“Soft” and “hard” money