

MS Career Opportunities and Job Search

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



Agenda

- **Introductions**
- **Possible career paths with an MS degree**
- **Preparing for the job market**
- **Career growth and advancement**
- **Preparing for interviewing**



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Gonzalo Ramos – goramos@microsoft.com

From Argentina

Principal Researcher – Microsoft Research AI - Redmond

before that...

- Senior UX Scientist – Amazon Grand Challenges (2015-1016)
- Senior Design Technologist – Amazon Concept Lab (2013-2015)
- Scientist, Microsoft Live Labs; OSD (2007-2013)
- MS, Ph.D. in CS, University of Toronto, Canada



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Jaime H Moreno – jhmoreno@us.ibm.com

- **Originally from Chile**
- **Current role**
 - Distinguished Researcher, Senior Manager, IBM TJ Watson Research Center, NY
 - Recent completed project: IBM Summit and Sierra supercomputers (#1, #2 in Top500)
 - Current focus: Cloud Infrastructure
- **Previously (although long ago ..)**
 - Faculty Member, University of Concepcion, Chile
- **Computer Science, PhD, MS, UCLA**
- **Electrical Engineer, University of Concepcion, Chile**



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PRELIMINARIES

Who is in the audience?

- **How many currently in Master Degree program?**

- Course or Thesis program?

- **Who will be graduating this spring?**

- Do you already have plans for after graduation

(other than a well-deserved vacation..??)



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Exercise: Turn And Talk To Your Neighbor

A. What is your plan after graduation?

- E.g., look for job in what area/industry, enroll in Ph.D., ...

B. What do you expect from your professional experience?

- E.g. Impact? Learning? Recognition? Money?

C. What do you want as your future career path?

- E.g., Technical Leader? Individual Contributor? Astronaut...?



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CAREER PATHS

Job Market, Opportunities and Tradeoffs

- **Computing skills are in high demand**

- There are many job options with many tradeoffs

- **Established large/mid-size organizations**

- Scale
- Resources, roles, locations, career path
- Potential drawback: Lost in the crowd

- **Small organizations**

- Focus
- Diverse and well-defined role

- **Start-ups**

- Risk/reward/pace
- Broad role

- **Freelance**

- Autonomy
- Diverse role

Industry

- Technology
- Healthcare
- Finance
- Telecommunications
- Automotive
- Retail
- Sports
- Entertainment

Position

- Software Engineer
- UX Designer
- Data Scientist
- Product Manager
- Product Evangelist
- Field Support
- PhD program

Employer

- Established company
- Startup company
- Research lab
- Government
- Self



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A Note About Internships

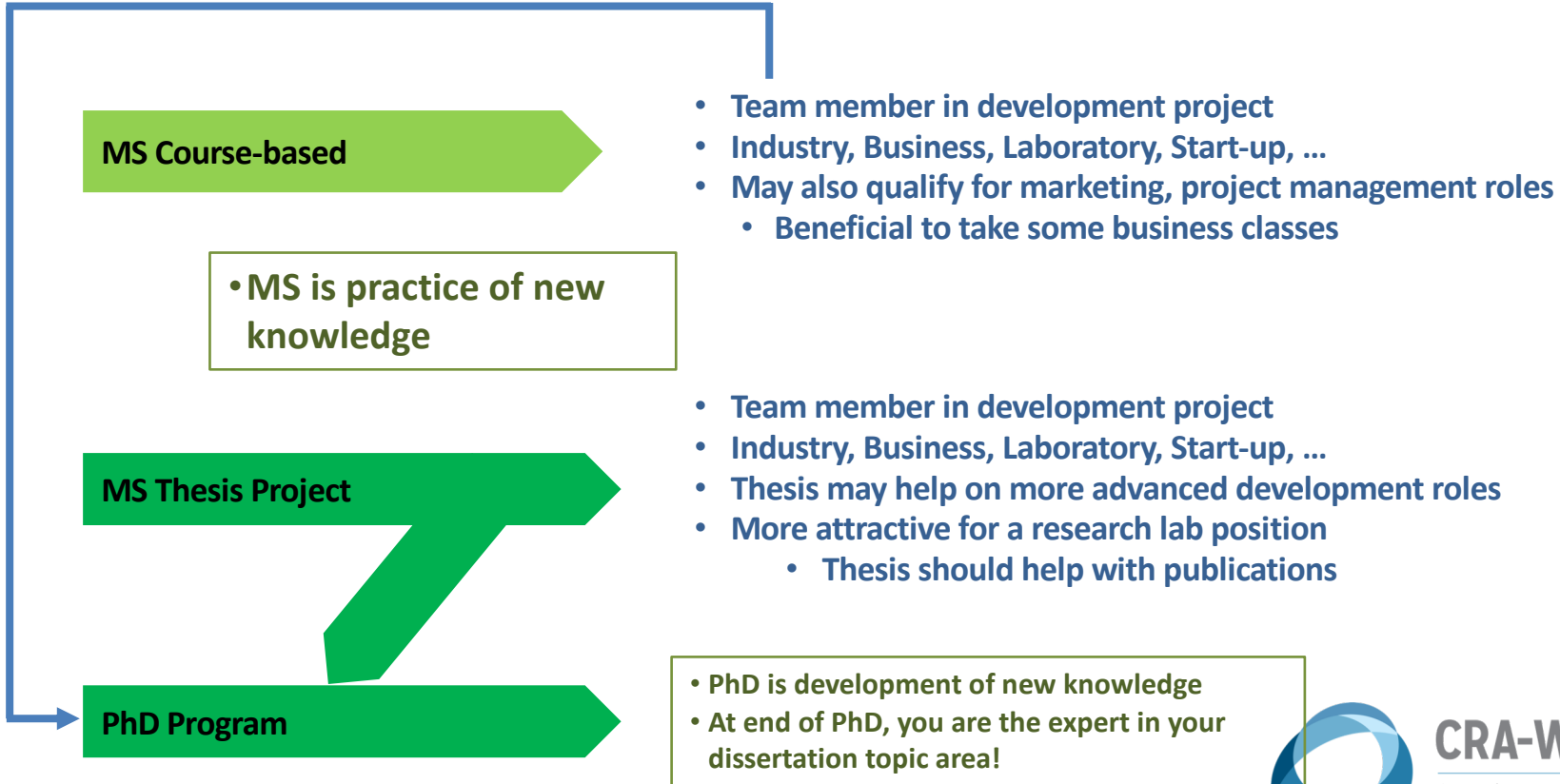
- **Provide opportunities for longer-term career networking**
 - When doing one, try to reach out beyond to learn and network
- **Teach a lot about specific positions at specific employers, also about more general job types, employer types and industries.**
- **Help refine your preferences and goals**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



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MS Educational Paths



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MS Programs Comparison

	Course-based MS	Thesis MS
Educational Goals	<ul style="list-style-type: none">• Acquire knowledge via coursework and internships	<ul style="list-style-type: none">• Acquire knowledge via coursework and internships• Acquire project/research skills (thesis)• Get taste of research or advanced development
Program	<ul style="list-style-type: none">• Courses deeper than undergraduate• Become capable of technology and/or business development	<ul style="list-style-type: none">• Courses deeper than undergraduate• Become capable of technology and/or business development• Introduction to research or advanced development



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Professional Ladder

		Career Level	Contribution and Impact	Expertise
<div>Entry Level</div> <div>Career</div>		Advisory Engineer	Team Member / Leader in a product/project	Advanced knowledge and development skills in one area of contribution
		Senior Engineer	Leader in developing projects (research or technology)	Project-wise expert Proven technical capabilities
		Distinguished Engineer	Leader in developing large successful projects (research or technology)	Technical authority, impacts a business
		Fellow, Senior Fellow	Leader in developing successful product lines or technologies	Top technical leader in broad industry
		Director of Productor Business Development	Develop new or drive existing business lines	Product or Business expert Impacts business lines
		VP of Productor Business Development	Strategic direction for new or existing business lines	Product or Business expert Impacts broad business lines
		CEO/CTO	Business or technical leader, strategic decision maker	Business and technical strategy, visionary



Career Impact

- **Technology and product development**

- Contribute to company's products, client engagement, open source
- Contribute to intellectual property (patents)
- Develop new products
- Demonstrate strong problem-solving skills

- **Research**

- Engage in scientific discovery, collaborate with peers
- Develop creative thinking about technical solutions to problems
- Publish work, engaged with academia

- **Service**

- Departmental, Company-wide committees: hiring, engagement, promotion, mentoring, operational processes, ...
- Professional: conference committees, organizations



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HOW DO YOU PREPARE FOR THE JOB MARKET?

Job Search Preparatory Homework

- **Identify goals and gaps that may exist**
- **The Internet and LinkedIn are your friends**
 - Have a portfolio / online presence
 - Build a Network
 - Contact recruiters
- **Have concrete work examples you can talk about**
- **Put yourself out there**
 - Workshops, meetups, events, career fairs, companies' campus visits



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Job Search Preparatory Homework

Craft Your Resume / CV

- Think who do you want to present yourself as
 - E.g., hacker, researcher, manager, designer
- It is OK to have different profiles
- Be concise
- How are you going to stand out?
- Ask for feedback
- LinkedIn can be you CV,
 - but have one nonetheless



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HOW DO YOU GROW IN YOUR CAREER?

Career: Performing and Growing

You and Your Manager

- Know expectations and opportunities of your position
- Define clear goals and set expectations for performance
- Communicate your progress

Being Good

- Align with the objectives of the organization
- Understand how to leverage team, and vice-versa
- Balance between being nice and making a point

Growth Path

- Be visible to peers, your manager, your manager's manager
- Actively participate in meetings (sit at the table, not in the back)
- Take on stretch assignments to grow visibility and capabilities
- Meet other people in the organization over lunch/coffee, job shadows
- Find or ask for a mentor (formal or informal)
- TAKE RISKS



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Career: More About Growth

- You own your own career
- Be pro-active about your career plans
 - You can change your mind any time
 - The first job most likely will not be your only job
- Ask frequent, actionable feedback (manager, peers)
- Talk to people at the next level about what they do and what is expected
- Volunteer to take on roles above your current position
- Find advocates to build a case for promotion



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Example: someone I know

- **Female MS graduate in Computer Science**
 - First joined database company as Software Engineer
 - Moved to research/advanced development in a large company
 - Established herself as technical leader in her group
 - Became manager/senior manager of a group
 - Transitioned to business organization
 - Product and services deployment, business development, strategy development
- **Currently: Vice-President in the large company**



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Many successful executives have MS degrees

- Virginia "Ginni" Rometty, IBM CEO -- BS in CE/EE
- Satya Nadella, Microsoft CEO – MS in CS, MBA
- Sundar Pichai, Google CEO – MS in Materials Science/Engineering, MBA
- Jeff Bezos, Amazon CEO – BS in EE/CS

Successful business and technical leaders also come from MS level



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SPECIAL CONSIDERATIONS FOR PERSONS WITH DISABILITIES

Special Considerations for Persons with Disabilities

- **America Disability Act (ADA)**

- Don't assume all organizations comply with ADA.

- There is no ADA enforcement.

- **When to disclose disability?**

- At interview if physical (visible) disability,
 - At offer if invisible.

- **Some organizations actively seek persons with disabilities for certain product development tasks.**

- **Advocate for what you need to be successful in your career growth.**



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HOW DO YOU PREPARE FOR INTERVIEWING?

Interviewing

- **Widely different kinds**
 - Development, Research, Management, Design, Field Support.
- **Never turn down a reasonable opportunity to interview.**
- **Some companies have interview prep material online.**



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Preparing for Interviewing

- **Prepare for the target position**
 - Behavioral questions: explain what you did in a specific situation.
 - Know your stuff: make sure you fully understand questions, ask clarifications if needed.
 - Talk through your answers, show your thought process.
 - “Perfect is the enemy of done.”
- **Rehearse interviews with your peers.**
- **If interviewers’ names are known, learn about them.**
- **If target area/project is known, learn about it.**
 - Current status, history, alternatives.
- **Show your interest for the position**
 - Have goals / ambition.



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You are the interviewer too!

- Be confident,
- Evaluate the organization as much as they are evaluating you,
- Gauge culture and climate through informal conversations,
- Can you see yourself working there?
- Can you talk with others that work there?
- Get information you may need to make a decision, if you get an offer,
- Think through timelines, be flexible,
- Have your list of questions.



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The Job Offer

- **Send follow-up/thank you notes.**
- **Stay in touch with recruiter!**
 - But do not look anxious.
- **Negotiate the job offer, if the opportunity arises.**
- **You can negotiate things other than salary.**
 - Stock/ stock options grants, vacation time, job assignment.
- **Know what you are worth.**
 - Consider your experience, research online, talk to peers.
- **Be clear on your willing to compromise.**
- **Use other job offers as leverage.**



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Offers and Negotiations

- This is your chance to set terms.

>>> DO NOT TO GIVE THE OPENING BID <<<

- Demonstrate why potential employer should meet your number.
- Understand offer / bonuses.
- Starting compensation is not the **ONLY** deciding factor.



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RESOURCES

Job Search Resources

- *Cracking the Tech Career* by Gayle Laakmann McDowell
- *Cracking the Coding Interview* by Gayle Laakmann McDowell
- <http://glassdoor.com>
- (app) Blind
- LinkedIn
- SimplyHired.com
- ... (we are not personally endorsing any product)



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