

Industrial Math Day 2024

Matt Mastin
University of Georgia
Math Department
April 27, 2024

Professional Timeline

- UGA (2006-2012)
 - PhD Advisor: Jason Cantarella
- Wake Forest Postdoc (2013-2015)
 - Advisor: Jason Parsley
- Mailchimp (2015-2022)
 - Data Software Engineer -> Data Scientist
- Mutiny (2022-2023)
 - Data Scientist Lead
- Next Insurance (2023-)
 - Data Scientist, Machine Learning

Mailchimp (Email Marketing)

- connection through a former UGA student (John Foreman)
 - you're already networking
- junior engineering on the data science team
 - I knew how to code, but had to learn how software is actually built

Mutiny (Marketing Startup)

- connection through a former coworker at Mailchimp
- hired to build out machine learning function
- got laid off
 - lesson: understand how your work impacts the business
 - consider asking question about this during interviews
 - industry dependent, marketing is hard to measure

Job Hunt

- Took about 3 months to find a new job.
- Any tips for weathering the stressful job search process?
 - Interviewing is a skill and it's hard to practice
 - Focus on learning something each time.
- LinkedIn was more useful than I expected.
- Seemed like the "data science" roles fell into two buckets:
 - i. Analysis and experimentation to make business decisions
 - ii. Building machine learning systems

Next Insurance

- Decided to lean into engineering
- Found this position through a former coworker
- "full-stack" data science team
- How did you find the ad for the job you eventually got?
 - I've never gotten a job by via an ad or posting
 - Every role I've gotten has been through networking

Other Questions

How would you list and rank what employers look for in candidates for your role in the current job market?

- buzz word time: **stakeholder management**
 - describing work/capabilities/timelines/dependencies in an understandable way
 - academia is probably the best source of these skills
 - managing competing priorities
- technical ability
 - maybe modeling
 - maybe coding

Other Questions

Any tips on how to frame pure math skills on your resume/ other resume tips?

- "Alien Teleportation"
 - making connections between things that others miss
 - Math has the advantage in helping with this skill over other fields
 - understanding over technique
 - abstraction over complexity

What resources would you recommend for interview preparation?

- Learn about the business ahead of time
- If it's a role that involves coding, you should be prepared to do live coding or provide code samples
- start a github account and use it for something
 - maybe a simple website (google "static website")
 - tinker with git / github / gitlab / vscode

Other Questions

- What does a typical workday in your life look like? How many hours do you devote to work?
 - I probably work more than 40 hours a week, but usually because I can't get a problem out of my head... a habit from academia for sure
- Do you need to devote additional time outside your work to upskill for growth and/or maintain your role?
 - I don't do a lot of this, but I've prioritized being able to do this as part of my role

Other Questions

- What non-math course(s) do you wish you had taken?
 - Experimental design from somewhere?
 - Software Engineering
 - Statistics, or at least attend talks to learn the words
- Would you advise your undergrad self to get an additional major or degree? If so, what?
 - I did most of a computer science bachelors.
 - What I learned has been invaluable.
 - It's never come up that I don't have the degree.

Other Questions

- Do certifications/bootcamps work? If so, what should one keep in mind when selecting which one?
 - I think value would be in what you learn, not having a certificate.
- Any tips on how to expand your network to people in the industry?
 - Keep track of people you've met here
 - Cold start problem

Thank you!!

**Would you be open to students reaching out to you?
How would you like them to contact you?
(LinkedIn/Email/Something else)**

Absolutely, email or LinkedIn are probably best:

- matt.mastin@gmail.com
- <https://www.linkedin.com/in/matt-mastin-66667b17/>

LLMs are more than chatbots

- All Businesses in the US (ALBUS)
 - Aggregate business info from the web to provide data for risk modeling
- "the relevance problem"
 - Given a business, how do we know if a particular piece of data is associated to that business or a similar one?

LLMs are more than chatbots

- AlbusGPT
 - LLMs are very good at "reasoning" problems
 - Much more effective to use them in solving the relevance problem than the previous, more intricate, methods