Michael Sachs

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I am an experienced data leader with demonstrated success applying machine learning, analytics, and data science in highly technical domains to create business value. I have built world-class teams, sometimes from the ground up; led complex, enterprise wide cross-functional initiatives; and delivered data science products that inform high stakes decision-making, save millions of dollars, and supercharge the product experience for hundreds of millions of customers.

Experience

Netflix

Senior Data Science Manager
September 2020 - September 2024

I led the Data Science team focused on Netflix's billion-dollar infrastructure. This includes all the cloud infrastructure that Netflix rents from AWS as well as Netflix's custom-built global content distribution network. Highlights:

- My team developed ML models and optimization algos, researched new experimentation methods, and built data and analytics products, all designed to improve the quality, efficiency and reliability of Netflix.
- I built Netflix's first ML for Systems team, tasked with using algos and ML to improve Netflix's infrastructure. This team wrote the optimization code to steer Netflix AWS traffic, ML models for global VPN detection, ML models for workload placement in AWS and Spark job optimization, and the algos to predict Live event traffic for service scaling.
- I led the cross-functional effort to build data science infrastructure from the ground up for the new Netflix Cloud Games platform.
- I led the cross-functional effort to build AWS cost efficiency data and analytics tools – enabling Netflix to better manage its nearly $800 million cloud infrastructure spend.
- My team also owned: the testing and experimentation methods and tools to improve the quality and reliability of Netflix's content distribution network, and the data and tools that monitor Netflix up-time, help investigate incidents, and manage and improve developer productivity.
- I co-led the development of the first "Data and Insights Day" for the 500-person data science org, co-wrote new job families for Analytics Engineer and Machine Learning Engineer roles, and participated in the creation of leveling requirements for IC data science.
- I was selected to be part of the first cohort of managers to be promoted to the new Senior Manager position when it was created.

FLYR

Head of Product, Head of ML Ops
November 2018 - April 2020

FLYR is using AI to change how airlines price tickets. I was hired to lead the creation of end-to-end ML development tools to speed the iteration and deployment of new models and to improve the reliability of FLYR's product. Later I was promoted to Head of Product where I re-envisioned the product to enable it to scale beyond FLYR's seed customers. Highlights:

- As Head of Product, I created a shared vision and strong performance oriented culture for the FLYR product, program and data science teams. This consisted of a total of 22 people in locations in San Francisco, Krakow, Poland, and Kuala Lumpur, Malaysia.
- I spearheaded the adoption of a data-driven product development approach, introducing metrics that measured the quality of the pricing decisions. This enabled FLYR to expand its customer footprint, and further improve pricing models.
- As Head of ML Platform, I created the charter, defined the roadmap, and managed the work of the ML Platform team at FLYR. This was a hybrid team of data scientists and engineers whose purpose

was to create a platform to enable FLYR to deliver data science products at scale to multiple airline customers.

- I designed the system architecture for FLYRs production inference pipeline.

Radius Intelligence

Data Science Manager
March 2017 - October 2018

Radius Intelligence used curated data to connect B2B marketing and sales teams to potential customers. I led the data science team who was responsible for the quality and comprehensiveness of this data. Highlights:

- My team researched and deployed new methods to improve the data through enrichment and automated quality monitoring. We also worked closely with engineering teams to improve systems that did entity resolution, search space reduction, and clustering.
- I provided technical leadership and hands-on modeling and coding work for Radius's updated matching framework to allow faster iteration on model code to drive performance improvements on matching precision and recall.
- I defined the charter at Radius for how to measure the impact of research, clarified roles within the data science function, and developed a job ladder for data scientists. I developed strong relationships with engineering and product leadership to define operating cadence and cross-functional team success.

Discovery Digital Networks

Director of Data Science and Technology
March 2014 - March 2017

Discovery Digital Networks (DDN), produced Discovery Channel branded, short form video content for online distribution. I was hired to build a system that would provide visibility into content performance across multiple distribution channels. I was later asked to lead the entire data and engineering organization, where I modernized the DDN tech stack and enabled better data-driven decision-making across the organization. Highlights:

- I designed and built a robust streaming video data science platform using Python, Redshift and EC2. This platform supported data collection, distribution and analysis across multiple Discovery Communications brands including The Discovery Channel, Animal Planet and The Science Channel, ingesting and analyzing over 500 million rows of data per day.
- I led a group of software architects, web engineers, and app engineers in implementing and maintaining a suite of online properties with two million unique users per month.
- I built forecasting algorithms and insights applications to track content performance and inform creative and business decision-making (incl. predicting 30-day performance of individual titles and 12-month performance of entire networks).
- I led the migration of all DDN web and data infrastructure to AWS, and development of a microservice-based web architecture to replace the legacy PHP framework. The new system more than halved the page delivery and rendering time, and resulted in vastly improved stability and reduced development time.

University of California, Davis and Columbia University

Graduate Student, Researcher, Associate Instructor
January 2005 - March 2014

I returned to school to study physics and math at Columbia to prepare for graduate studies at the UC Davis Department of Physics. My focus area was complex systems and computation. I was awarded a NASA Earth and Space Science Fellowship to fund my research.

Weill Cornell Medical College and New York Presbyterian Hospital

Product Manager, Senior Web Designer
June 2002 - January 2005

I was a designer and product manager for the team responsible for developing the Weill Cornell Medical College and New York Presbyterian Hospital suite of public websites. This included the primary site for each institution but also a host of department websites. I helped establish a consistent design language that tied all of these sites together. I also worked with hospital and college staff to develop content strategy.

Xperts Inc.

Creative Director, Designer
March 1997 - June 2002

I was a designer and later the leader of the design team at this mid-size technology consulting firm during the height of the dot-com boom. I worked closely with dozens of clients ranging from start-ups, to small businesses, to giant corporations on design and UX for web applications. I also worked to improve the quality of UX and design work across all of Xperts through hiring, design reviews and guidance and mentorship. Lastly, I partnered with the business development organization on acquiring new clients.

Technologies

Languages

Python and SQL are my languages of choice. I've worked with: JavaScript, C, C++, HTML, CSS, Java, php, CQL, bash shell scripting, Objective C, IDL, Mathematica, MatLab, lisp, and ActionScript.

Applications, Modules, Libraries and Frameworks

My most recent experience is with: Spark, Databricks, Numpy, Scikit-learn, TensorFlow/Keras, Scipy, Pandas, MySQL/PostgreSQL, Google BigQuery, Matplotlib, Jira, and Confluence. In the past I have used: SQLAlchemy, Celery, Cassandra, Redshift, D3.js, Boto, Flask, HDF5, Django, JQuery, PIL, Ajax, Hadoop, WordPress, MPI, Mathematica, Adobe Illustrator, and Adobe Photoshop.

Cloud Platforms

Amazon Web Services, Google Cloud Platform

Education

University of California, Davis

Completed physics PhD, 2013

- Adviser: Professor John B. Rundle
- Area of Study: Computational physics and complex systems
- Course work completed with a 3.87 GPA

Columbia University

Completed undergraduate physics curriculum, 2007

- Physics and math coursework in order to prepare for graduate school.
- 3.99 GPA

Virginia Commonwealth University

Bachelor of Fine Arts, Graphic Design, School of the Arts, 1995

- Top visual arts program among US public research universities according to the NSF.
- 3.24 GPA