

Michael Sachs

www.mikesachs.com
mike@mikesachs.com

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, Infrastructure 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. My team built ML models and optimization algos, experimentation methods and tools, as well as data and analytics, all designed to improve the efficiency, quality and reliability of Netflix. Highlights:

- I grew the team's scope from just Netflix's content distribution network to all of Netflix's infrastructure. I achieved this partially through growing the size of the team, but mostly by focusing heavily on talent density, promoting two ICs on my team to the new L6 (staff) level, and positioning all team members to maximize their impact.
- I built Netflix's first formal ML for Systems team which was focused on using algos and ML to improve Netflix's infrastructure. This four-person subteam built the optimization code that steered all Netflix AWS traffic, the ML models that did VPN detection globally, the ML models that handled workload placement in AWS and Spark job optimization, and the algos that predicted Live event traffic for service scaling.
- I led the cross-functional effort to develop data science infrastructure for the new Netflix Cloud Games platform. This was a zero to one effort that included quality metrics, data collection architecture, and randomized and quasi-experimentation infrastructure.
- 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 data and tools to manage and improve developer productivity, the data and tools that monitor Netflix up-time and help investigate incidents, and the testing and experimentation methods and tools to improve the quality and reliability of Netflix's content distribution network.
- I was very involved in the organizational health of the Data Science organization and co-led the development of the first "Data and Insights Day." This was the first in person activity for the entire 500-person Data Science org after the COVID pandemic. This is now a week-long event held twice a year and organized by the CTO's direct reports.
- I was also heavily involved in defining and setting standards for the data science craft at Netflix. I helped define the Analytics Engineer and Machine Learning Engineer roles and was also part of a small group that developed IC levels for data science roles at Netflix.
- 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 reinvisioned 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, focused on measuring the quality of the pricing decisions FLYR's core product was making. This built trust with existing customers, expanding FLYR's footprint, and provided targets for developing better 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 FLYR's production inference pipeline. This architecture aligned the new ML Platform team which had very little experience with production scale ML pipelines so they could begin to untangle the bespoke legacy system.

Radius Intelligence

Data Science Manager March 2017 - October 2018

Radius Intelligence was developing a curated data set of US businesses 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. We monitored every stage of the data ingestion and curation pipeline and built models to detect and address quality issues. We also worked closely with engineering teams to improve systems that did entity resolution, search space reduction, and clustering. Highlights:

- I led initiatives to deliver business value from first-party data provided by Radius customers (as opposed to third party data purchased from external data providers). Major projects in this space include models and processes to perform phone and email validation, and net-new contact validation.
- I provided technical leadership and hands-on modeling and coding work for Radius's updated matching framework. The new framework allowed fast iteration on model code which enabled the data science team to drive performance improvements to matching precision and recall.
- I defined the data science charter at Radius, providing a vision for the function and clarifying the various roles within the function. I developed a job ladder for data scientists to provide clear opportunities for professional development.
- I consolidated data science into a single unit within the engineering organization. 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 data science platform using python, redshift and EC2, to support data collection, distribution and analysis across multiple Discovery Communications brands including The Discovery Channel, Animal Planet and The Science Channel. At its peak, this platform was ingesting and analyzing over 500 million rows of data per day.
- I led a group of software architects, web engineers, and apps engineers in implementing and maintaining a suite of online properties with a total of approximately 2 million unique users per month and

a data collection, reporting and analytics infrastructure storing information about tens of thousands of video assets across dozens of distribution platforms.

- I built forecasting algorithms and insights applications to track content performance and inform creative and business decision-making. The forecasting algorithms predicted 30-day performance of individual titles and the 12-month performance of entire networks. The applications displayed these predictions alongside actual content performance from hundreds of channels including YouTube, Facebook, owned and operated websites, and Freewheel ad services.
- I led the migration of all of Discovery Digital Networks web and data infrastructure to Amazon Web Services, and the 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 was fortunate enough to be able to study undergraduate physics and math at Columbia and later continue graduate study at the UC Davis Department of Physics. My focus area was complex systems and computation, specifically using simulation to better understand earthquakes. In the latter portion of my studies, I was awarded a NASA Earth and Space Science Fellowship which funded 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 70-person 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.

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