AARON MAURER

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SUMMARY

Seasoned engineering leader and technical specialist in ML & AI looking for next challenge.

Specialties: Growing and leading high impact organizations of ML/AI specialists; Generative AI & RAG; Search and Recommendation Systems; Data Engineering; Identifying and Bootstrapping ML/AI Use Cases

PROFESSIONAL EXPERIENCE

Slack

Director of Software Engineering, Machine Learning & Search Infrastructure   *February 2024 - Present*

- Led development of novel infrastructure and ML to deliver Slack AI product launch, including:
  - ⋄ Models and infrastructure to power RAG pipelines for search and summarization
  - ⋄ Infrastructure to manage efficient scaling and deployment of LLMs
  - ⋄ Evaluation tools for LLM output, allowing robust evaluation of AI product through entire life-cycle
- In close collaboration with product pillar, delivered Slack AI from concept to GA in less than a year
- Grew group from 6 to 20, adding 13 engineers and one manager and organizing into 3 teams
- Coordinated with procurement, external vendors, and product legal on all ML/AI related needs

Senior Software Engineer Manager   *February 2022 - February 2024*

- Led 10 person infrastructure engineering organization of two teams
  - ⋄ Machine Learning collaborates with product teams to incorporate ML/AI features.
  - ⋄ Real Time Services manages services to stream messages to Slack clients
- Developed engineer on ML team as a manager and handed off direct team management to her
- Managed transition from vendor to homegrown ML model serving service, saving $400k/yr

Software Engineer Manager   *May 2021 - February 2022*

- Led Machine Learning team, developing team strategy and growing team from 1 to 5 engineers
- Worked with product leaders to identify impactful ML use cases around org and lead collaboration.
- Developed ML infra/tooling strategy to serve various product needs.
  - ⋄ Guided development of our generic recommendation engine the Recommend API
  - ⋄ Managed transition to kubernetes based model training infra, saving $500k/yr

Staff Software Engineer, Machine Learning   *February 2020 - April 2021*

- Technical Lead of the Machine Learning Team
- Leader in developing our vector search service for users and channels, developing methodology and pipeline for both semantic and interaction based embeddings.
- Built out recommendation API on top of embedding service and on-boarded product teams

Senior Software Engineer, Machine Learning   *June 2017 - February 2020*

- Primarily focused on developing ranking models for message search, file search, and autocomplete
  - ⋄ Built foundational data pipelines for training and developed search wide product metrics
  - ⋄ Developed training methodology, including sampling, ranking objectives, position bias adjustments

- Built unified feature pipelines and collections to aggregate CTR/interaction stats for various entities
- Developed spam model to automate blocking Slack invite spam - see [blog post](#).
- Built anomaly detection framework, catching numerous performance/logging regressions
- Developed logging and metrics to track time spent in Slack as part of drive towards public offering

Airbnb

Machine Learning Data Scientist, Search Ranking *August 2015 - June 2017*

- Trained and implemented new versions of the GBM-based ranking algorithm. Contributed to 4.5% cumulative increase in bookings across ranking team.
- Built and maintained Airflow/Hive/Scala/Spark data pipelines for online features and training data.
- Oversaw search ranking experiments, guiding their design, methodology, and interpretation. Developed stratified estimators and sequential testing methodologies.
- Conducted ad hoc data analysis to understand current algorithm behavior and opportunities, including retrospective of offline DCG metrics vs online performance.

Acumen, LLC

Policy Associate *August 2011 - August 2014*

- Provided analytical and programing expertise to federal agencies studying healthcare topics, guiding $25 billion in spending and monitoring safety of millions of vaccinations.
- Performed data analysis on and statistical modeling of entire enrolled Medicare population.
- Worked with federal clients to develop analysis and explicate results; produced data visualization and documentation to assist client understanding.

TECHNICAL SKILLS

Programing Languages	Python, Scala, Java, PHP/Hack, SQL (Hive/Presto/MySQL)
Programing Tools	Apache Spark, Airflow, AWS, Kubernetes, Jupyter, Git

EDUCATION

Masters of Science in Statistics *August 2015*
University of Chicago - Chicago, Illinois

Bachelor of Arts in Mathematics & History, Cum Laude *June 2011*
Carleton College - Northfield, Minnesota

SELECTED PATENTS

- US-11297030-B2 - Embeddings-based discovery and exposure of communication platform features
- US-11297030-B2 - Optimizing application performance with machine learning
- US-11991137-B2 - Notification timing in a group-based communication system
- US-20240177358-A1 - Machine learning based on graphical element generator for communication platform
- US-20240176960-A1 - Generating summary data from audio data or video data in a group-based communication system
- US-20240179193-A1 - Channel recommendations using machine learning
- US-20230353651-A1 - Identifying suggested contacts for connection