

Matthew L. Cooper

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Machine learning scientist and engineer with deep experience designing and deploying applied machine learning, search, and recommendation systems across multiple modalities. I worked over fifteen years as a research scientist, producing 70+ professional publications and 40+ U.S. patents. Additionally, I have eight years of experience as a staff+ machine learning engineer focused on production recommendation systems.

PROFESSIONAL EXPERIENCE

Senior Staff Machine Learning Engineer

CNN / Warner Bros. Discovery

07/2025 — Present

San Francisco, CA

- Member of Machine Learning & AI Enablement team responsible for recommendation services across CNN app and home page including personalized, popular, trending, and related content recommendations and supporting infrastructure
- Deploying initial personalized recommendation model for app shorts (vertical video) feed
- Working with machine learning engineers to expand personalized modeling capabilities and standardize model evaluation processes and documentation
- *tools*: python, PyTorch, numpy/scipy, pandas, scikit-learn, metaflow, snowflake, AWS: S3, Lambda, Step Functions, Batch

Staff Software Engineer, Machine Learning & Recommendations

Mozilla, Inc.

09/2018 — 05/2025

San Francisco, CA

- Working in data and learning team to power recommendations for *pocket app* (30M registered users). Developed and deployed pocket's initial personalized home and per-topic recommendation pipelines
- Developed human-in-the-loop batch recommendations driving increases in recommendation volume of 300%, total clicks of 54%, and CTR of 17% YoY for the *firefox new tab* (2B weekly impressions)
- *tools*: python, PyTorch, sentence transformers, BERT/SetFit, numpy/scipy, pandas, scikit-learn, metaflow, snowflake, airflow, dbt, outerbounds AWS: S3, Lambda, step functions, batch, dynamoDB, redshift, elasticsearch, gensim GCP: bigquery, snowflake, cloudfunctions, GCS

Senior, Principal Research Scientist & Group Lead

FX Palo Alto Laboratory, Inc.

08/2000 — 08/2018

Palo Alto, CA

- Research and development of content-based multimedia analysis to facilitate interactive media management, recommendation, and information retrieval applications working variously with video, text, audio, and music data.
- Provided applied machine learning expertise and support to projects lab-wide
- Substantial rapid prototyping experience with python/pydata stack and C/C++
- Lead for Integrative Analytics research theme 2012-2017 with 2-3 direct reports and supervised summer interns
- Served on internal technology assessment panel reviewing patent proposals technically and strategically
- Over 70 professional publications and 50 granted U.S. patents

Programmer and Analyst

Washington University Genome Sequencing Center

01/1995 — 01/1996

St. Louis, MO

- Developed image processing algorithms and software for four color electrophoretic DNA sequencing. Related software used to sequence *C. elegans* and human genomes.

EDUCATION

D.Sc. Electrical Engineering Washington University in St. Louis

Thesis: *Information Measures for Object Recognition Accommodating Signature Variability*

Research Advisor: Prof. Michael I. Miller

M.S. Electrical Engineering Washington University in St. Louis

B.S. Electrical Engineering, Minor: Computer Science Washington University in St. Louis

15+ Certifications coursera, deeplearning.ai, edX

AWARDS

ACM Distinguished Member

IEEE Senior Member

Boeing-McDonnell Foundation Fellowship, Office of Naval Research Fellowship

Washington University School of Engineering Dean's Honorary Scholarship