Maya Ravichandran

maya.rav@outlook.com | 732-391-3730 | maya-ravichandran | maravichandran | maravichandran.github.io

Education

University of Oxford — Oxford, UK
MSc in Advanced Computer Science at New College

University of Cambridge — Cambridge, UK
MPhil in Therapeutic Sciences at Trinity College

Rutgers University–New Brunswick — New Brunswick, NJ
B.S. in Computer Science

Work Experience

Netflix — Fall 2024 - Present
Research Scientist — *Los Gatos, CA*

- Leading research and development of agentic AI system for coordinating launches of movies and TV shows on Netflix
- Designed and deployed an agentic AI system that analyzes key internal communications and reconciles launch plans, supporting the release of over 20 Netflix movies and shows
- Delivered high-quality execution and vision-setting, resulting in the expansion of this agentic AI project for launching new movies/shows from a proof of concept to a multi-year, cross-organizational priority
- Architected and released a system for ingesting key communications via a WebSocket server and processing and actioning upon new messages via agentic AI models, built using Python, large language models, and AWS
- Developing system for automatically evaluating online and offline performance of agentic AI models by crafting an evaluation dataset and using LLM-as-a-judge techniques and online human feedback
- Spearheading adoption of agentic AI at Netflix through developing educational frameworks and training both technical and non-technical teams on integrating agentic AI into business systems
- Conducting research on LLM tool usage capabilities and preparing findings for publication
- Promoted from ML Research Intern to full-time ML Scientist based on impactful contributions

Regrello — Fall 2023 - Summer 2024
Machine Learning Engineer — *San Francisco, CA*

- Core contributor in the design and development of a multi-agent LLM system for generation of custom supply chain workflows, incorporating industry knowledge and customer-provided assets
- Incorporated AI-generated manufacturing processes into Regrello software to enable streamlined auto-execution of processes, using a backend written with Python and Flask, running on Docker, Kubernetes, and GCP
- Architected and deployed a scalable, distributed, asynchronous task queue using Celery in Python, enhancing the processing efficiency and reliability of LLM tasks in a high-demand environment
- Performed experiments to demonstrate the robustness of the multi-agent LLM system to prompt injection attacks
- Regrello is a Series A startup in the supply chain automation space, with clients including some of the world's largest manufacturers. Regrello is being acquired by Salesforce and was funded by a16z, among others.

Apollo Therapeutics — Spring 2023
Business Development Intern — *Cambridge, UK*

- Developed rapid screening method for identifying pharmaceutical drugs that would be strong acquisition candidates using filters on a pharmaceutical dataset, reducing number of drugs that needed to be manually examined by 77%
- Identified a viable acquisition candidate for Apollo

MongoDB — Summer 2021
Software Engineering (Machine Learning) Intern — *New York, NY*

- Developed a machine learning model for the novel application of predicting performance regressions based on code changes, using Python, Pandas, and Scikit-learn
- Achieved 0.88 accuracy and 0.91 ROC AUC score with passive-aggressive model, surpassing team's expectations of a minimum accuracy of 0.75 for a viable proof of concept model
- Completed end-to-end machine learning development, including constructing a data pipeline integrating data from GitHub and a performance dataset, data preprocessing, feature engineering, and model prototyping and evaluation

MongoDB Summer 2020
Software Engineering Intern *New York, NY*

- Designed and implemented a data pipeline within MongoDB's distributed, open source continuous integration system
- Implemented pipeline in Go that logged system metrics from cloud hosts running test suites, streamed data to a data sink using gRPC, stored data using MongoDB and Amazon AWS S3, and made data accessible via REST API for diagnosis of system failures via machine learning and data visualization

Bank of America Merrill Lynch Summer 2019
Sales and Trading Summer Analyst *New York, NY*

- Designed and priced hedges using a custom basket of equities and an options collar
- Constructed five-year interest rate swap spreads to maximize revenue and minimize risk

Commvault Summer 2018
Software Engineering Intern *Tinton Falls, NJ*

- Designed and developed a data pipeline that collected user activity data and inputted it into ARIMA statistical prediction models using C++ for intelligent scheduling of background activities to enhance system availability for customers

Commvault Summer 2017
Software Engineering Intern *Tinton Falls, NJ*

- To improve CI/CD workflow for in-house software development by ∼1,300 developers, created a full-stack application that contained a dynamic web interface using Angular, Bootstrap, HTML, CSS, Java, and MS SQL Server

Publications

Ravichandran, M.*, Koch, M.*, Das, T.*, Khatri, N*. (2023). GraphRNN Revisited: An Ablation Study and Extensions for Directed Acyclic Graphs. **NeurIPS 2023**: New Frontiers in Graph Learning Workshop. *(Paper link)*

Awards

Marshall Scholar: One of ∼40 US citizens selected yearly by British government based on academic, leadership, & ambassadorial potential, receiving full funding for graduate studies in the UK at Oxford & Cambridge
Presidential Scholar: One of top 0.3% of applicants to Rutgers University-New Brunswick, receiving full scholarship for undergraduate studies

Technical Skills

Languages: Python, Java, Go, C++, C, JavaScript, TypeScript, R, HTML, CSS, LaTeX
AI/ML: PyTorch, Pandas, Scikit-learn, LLMs, GPT-4, OpenAI API, Google Gemini
Tools/Frameworks: Angular, React, SQL, MongoDB, Flask
Developer Tools: Git, GitHub/GitLab, Docker, Kubernetes, GCP, AWS, Unix

Research Experience

University of Oxford Summer 2022
Machine Learning Researcher *Oxford, UK*

- Trained natural language processing transformer models (based on BERT architecture, 110M parameters) and support vector machine (SVM) models on whole genome sequencing data to predict presence of Alzheimer's disease
- Using approach of SVM models applied to single nucleotide polymorphisms, achieved 0.65 ROC AUC, which was comparable to previous approaches using other methods

National Institutes of Health Summer 2018
Bioinformatics Research Intern *Bethesda, MD*

- Improved accuracy of probabilistic framework for discovery of structural variants (large-scale genome mutations) by eliminating false positives with machine learning, using R

Princeton University Summer 2016 - Winter 2017
Civil Engineering Research Intern *Princeton, NJ*

- Investigated the impact of sulfate attack on the atomic structure of eco-friendly, low-CO2 alkali-activated cement
- Identified changes to atomic bonds in cement using X-ray diffraction methods and X-ray pair distribution function analysis on data from Advanced Photon Source particle accelerator at Argonne National Laboratory
- Finalist at Intel International Science and Engineering Fair (ISEF), Los Angeles, 2017