Varun Srivastava

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Education

University of California, Berkeley — Graduated Dec 2023
B.A. Computer Science, Mathematics — *GPA: 3.9/4*

Experience

Machine Learning Intern — May 2024 – Present
AdMarketplace — *New York, NY*

- Training ML time-series models in Python for the proprietary algorithmic ad bidding solution, decreasing critical models' prediction error by $> 80\%$.
- Full stack development: Writing frontend (Typescript/React) and backend (Django) code for an internal AI app, integrated with LLMs finetuned on an internal database of millions of products.

Founding Engineer — August 2022 – December 2023
Stork Oracle Network — *San Francisco, CA*

- Designed a high-speed and reliable WebSocket API for live crypto data. The pricefeed served several large paying DeFi clients, such as Vertex and Apex.
- Scaled the Python infrastructure up to meet high uptime and low latency requirements in a competitive market.

Quantitative Analysis Intern — May 2022 – August 2022
Dexterity Capital — *Seattle, WA*

- Implemented an evolutionary convergence strategy (CMA-ES) into the firm's financial forecasting model exponentially (> 100x) increasing hyperparameter convergence for their training engine.
- Analyzed signals in cryptocurrency markets that became incorporated in the company's proprietary high frequency trading (HFT) market making algorithm, which trades billions of dollars a day.

Data Science Intern — June 2020 – August 2020
First Republic Bank — *San Francisco, CA*

- Optimized the internal data orchestration (CI/CD) pipeline by designing an Apache Airflow pipeline with scheduled tasks and dependencies, decreasing end-to-end execution time of tasks by 50%.

Research & Publications

Machine Learning & Vision Researcher | *Berkeley Visual Computing Lab* — December 2023 – May 2024

- Lee, J., **Srivastava, V.**, Jennings, N., Ng, R. "Theory of Human Tetrachromatic Color Experience." *ACM SIGGRAPH*, 2024. Honorable Mention for Technical Papers Awards, spotlighted at the annual conference.
- Researched the emergence of color vision in humans via neurological models, specifically in the case of esoteric conditions such as human tetrachromacy.
- Designed ML-models to investigate neurologically accurate models of the eye, color receptors, and human brain.

Vision & Neuroscience Researcher | *Na-Ji Biophysics Lab* — September 2019 – April 2020

- Implemented computer vision tools in Matlab for researchers to track the pupil size of rats in video data.
- Correlated terabytes of time-series data with pupil measurements to analyze how rodents react to shock stimulus.

Projects

Semantic Finder | *do-me.github.io/SemanticFinder*

- Building SemanticFinder, a frontend-only semantic search engine powered by LLMs (> 200 Github stars).
- Designed and published a Chrome extension for the web app.

Technical Skills

Languages: Python, C/C++, JavaScript, Go, Java, SQL, Matlab.
Frameworks & development: AWS, React, Jenkins, Docker, Bitbucket, Kubernetes Node, Django.
Data & ML: PyTorch, Huggingface, AWS Sagemaker, GPU computing (MLX, Cuda, Torch).