JAMES ZHAO

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EDUCATION

Yale University, New Haven, CT 2019 - 2023

- *BS in Computer Science and Economics* (GPA 3.8)
- *Relevant Coursework:* Linear Algebra, Discrete Math, Probability and Statistics, Data Structures, Algorithms, Systems Programming, Databases, Operating Systems, Artificial Intelligence, Deep Learning, Capital Markets
- *Awards:* Yale Likely Letter Recipient (Top 150 STEM out of 30,00+ applicants), US Physics Olympiad Medalist

University of California Los Angeles, Los Angeles, CA 2024 – present

- *MS in Computer Science* (GPA 4.0)
- *Relevant Coursework:* Algorithmic Machine Learning, Large-Scale Machine Learning, Automated Reasoning, Big Data Analytics

TECHNICAL SKILLS

- *Computer Languages:* Python, C, Golang, Java, SQL
- *Tools:* Postgres, MySQL, Spark, Clickhouse, Grafana, HDFS, PyTorch, TensorFlow, Git, GDB, cProfile
- *Skills:* Machine Learning, Data Engineering, Data Analytics, Networking (TCP/IP, UDP, Ethernet), OS (*nix)

WORK EXPERIENCE

Akuna Capital, *Junior Quantitative Developer*, Chicago, IL May 2024 – July 2024

- Researched signals for price and latency prediction, optimizing market microstructure performance.
- Detected and resolved a trading system bug, preventing thousand+ dollars of trading losses per day.
- Enhanced trading infrastructure by correcting engine configs, upgrading observability systems, and developing trade reconciliation dashboards.

TikTok, *Software Engineer*, San Jose, CA Oct 2023 – Apr 2024

- Researched and developed AI agents for functional validation of TikTok UI using computer vision, LLMs, and chain-of-thought prompting, enabling autonomous navigation through TikTok app.
- Utilized HDFS and large distributed GPU clusters (A100 GPUs) on an internal platform to train AI models on TikTok's internal data, leveraging PyTorch distributed for efficient model training.
- Engineered and pipelined models, including CLIP for image localization and Grounding DINO to create an AI UI verification agent capable of validating and interacting with the app autonomously.

Meta, *Software Engineer Intern*, Seattle, WA Jun 2022 – Aug 2022

- Improved the latency and reliability of staging tier for demand control, ranking, and ML job scheduling services.
- Built, tested, profiled, and deployed backend microservices in a fast-paced, agile software development environment with continuous integration and delivery, leading to O (10s of secs) improvement in performance.
- Conducted code reviews and performed unit and integration tests to ensure code quality.

PROJECTS & LEADERSHIP EXPERIENCE

MIT Lincoln Lab Beaver Works, *Group Project* Jun 2018 – Aug 2018

- Led group of 3 to design FFT spectrogram fingerprinting-based music recognition algorithm, DLib 128-vector based face detection algorithm, inverted-indexed image search engine, and CNN-LSTM-based image captioning system.
- Presented projects at final event to MIT community, including professors and company employees, won 3rd place.

Yale Interactive Machines Group, *Research Assistant* May 2020 – May 2022

- Conducted robotic simulation and HRI research, implemented web system for robotic simulation, and published research in IEEE/RSJ International Conference on Intelligent Robots and Systems.