

# JAMES ZHAO

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## EDUCATION

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**Yale University**, New Haven, CT

Aug 2019 – May 2023

- *BS in Computer Science and Economics* (GPA 3.7)
- *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 30,000+ applicants), US Physics Olympiad Medalist

**University of California Los Angeles**, Los Angeles, CA

Mar 2024 – Jun 2025 (Expected)

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

## TECHNICAL SKILLS

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- *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

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**Akuna Capital**, *Quantitative Developer Intern*, 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 Intern*, 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

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**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 3<sup>rd</sup> 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.