Weiji "Victor" Li

Website: weijil.com

734-800-6986

weiji.victor.li@gmail.com

EDUCATION

University of California, Berkeley   Berkeley, CA
GPA: N/A   Aug 2022 — May 2023
M.Eng. in Electrical Engineering and Computer Science (concentration: Data Science & Systems)
- **Selected Courses**: reinforcement learning, decentralized finance

University of Michigan, Ann Arbor   Ann Arbor, MI
GPA: 4.00/4.00   Aug 2019 — May 2022
B.S. in Computer Science, B.S. in Data Science, Minor in Mathematics
- **Selected Courses**: operating system, web system, software engineering, conversational AI, natural language processing, machine learning, computer vision, computer security, user interface, algorithms, data structures, linear Algebra,
- **Awards**: Citadel Datathon (East Coast) spring 2022 - **2nd place**; Michigan Makeathon 2020 - **1st place**.

WORK EXPERIENCE

TikTok   Seattle, WA (remote)
Machine Learning Engineer Intern   May 2022 — Aug 2022
- Built a service on the machine learning platform to enable distributed training on shared GPUs using vertical scaling.
- Created a library in PyTorch for users to start distributed training jobs with multiple processes sharing one GPU; rewrote the communication method to enable tensor communication between processes on a same GPU.
- Rewrote PyTorch's memory management library and built a new memory allocation proxy to use NVIDIA's new memory allocation APIs for CUDA, which improved the speed of model training for 300% when multiple processes share one GPU.

Tesla   Palo Alto, CA (remote)
Software Development Engineer Intern   May 2021 — Apr 2022
- Designed and built a stable and scalable backend server of Tesla's Media service (used by 2 million+ cars).
- Led the integration of a new karaoke service: collaborated with infrastructure team to build a time-synced lyrics feature; provided software assistance to hardware team to build Tesla's first-ever microphone; met with engineers from vendors to integrate third-party APIs; communicated with program managers and UI designers for features and appearances.
- Integrated a new music service: added 10+ user-wanted features such as hands-free searching and daily recommendation.
- Refactored an existing music service: reduced 80%+ of unnecessary network traffic by redesigning the song fetching logic.
- Solved 50+ Jira tickets across different services, which reduced weekly user complaints from 500+ to less than 100.

Alibaba   Hangzhou, China
Algorithm Engineer Intern   Jul 2019 — Aug 2019
- Built an interactive machine learning platform so users can build ML models by dragging UI components instead of coding.
- Created 10+ ML algorithm components such as random forest and neural network, which were used by 5000+ times in total.
- Implemented an end-to-end workflow for image classification task using kubernetes, docker and shell script, which allowed users to train CNN models on GPUs by simply uploading raw image datasets (used by 2000+ times).

SKILLS

- **Programming Languages**: C++, Python, R, Golang, Java, JavaScript, C
- **Technical Skills**: kubernetes, docker, AWS, PyTorch, scikit-learn, CUDA, relational database (MySQL), NoSQL database (MongoDB), distributed computing (MapReduce), distributed systems, natural language processing, pandas

PROJECTS

- **Multi-modality Video Analysis**: A research about predicting reasons for actions in videos using NLP and CV. I created a dataset of 1000+ videos and my model achieved a state-of-the-art F1 score of 41%. The paper was accepted to EMNLP. link
- **Crossmod: A Real-time Comment Moderation System**: A system that can automatically remove violated comments on Reddit. I built the backend component using NLP models, REST APIs, mutli-thread library and AWS server. link
- **Multi-destinAtion Planner (MAP)**: A conversation-based voice assistant that plans the trip of multiple destinations. I led a team to ship a deliverable software using Google DialogFlow, Google Maps API, REST API, React and MySQL database. link