JINGCHENG WU

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EDUCATION

Carnegie Mellon University, School of Computer Science — Pittsburgh, PA
MS in Artificial Intelligence & Innovation — GPA: 3.86/4.0 — *August 2021 - May 2023*

University of Electronic Science & Technology of China — Chengdu, CN
BEng in Electronic Information Engineering — GPA: 3.93/4.0 — *Sept 2016 - July 2020*

SKILLS

Languages C/C++, Java, Python, JavaScript, TypeScript, Scala, HTML, CSS
Tools Spring Boot, Vert.x, Flask, Vue, Spark, Hadoop, Kuberenetes, Docker, Kafka/Samza, Jenkins, MySQL, MongoDB, Hbase, Neo4j, PyTorch, TensorFlow 2, AWS, GCP, Azure
Realms Cloud Computing, Web Development, Big Data Analytics, Deep Learning, Distributed System

PROFESSIONAL EXPERIENCE

[In Progress]One of FLAG - Ads ML Infra — Mountain View, CA
Software Engineering Intern — *May 2022-Aug 2022*

- Expected to perform (approximate) nearest neighbor search over ads embeddings with *C++*.
- Expected to build ML pipeline to evaluate embedding quality against results from human raters.

Microsoft - Machine Learning Group — Beijing, CN
Research and Development Intern — *Sept 2020-Aug 2021*

- Developed a logistics simulator contributed to MARO with *Python*, which earned *˜600 stars* on GitHub.
- Adopted base-stock policy with *CVXPY* and multi-agent reinforcement learning techniques with *PyTorch* and *Ray[RLlib]* to the replenishment problem by proposing *Contextualized MDP*.
- Proposed *Adaptive Episode Truncation* to speed up convergence on exploratory tasks.

OPEN-SOURCE PROJECTS

Robustar (Submitted to ICML 2022 workshop) — Pittsburgh, PA
Interactive Toolbox for Robust Vision Classification — *Dec, 2021-May, 2022*

- Added features including configuration table and prediction graph scaling and developed a task panel that manages task progresses in real time with socket using *Flask* and *Vue*.
- Containized the application with *Docker* and performed unittesting with *pytest*.

SELECTIVE PROJECTS

Cloud Computing Microservices Throughput Performance Race
Built three microservices, QR code service, block chain validation and Twitter user recommendation using *Spring Boot* and *Vert.x*, and deployed them on cluster with *Kubernetes* and *AWS*.
Performed ETL on Twitter user data of 1TB with *Spark* and *Scala* on *Azure Databricks*.
Designed in-cluster storage tier with *Kops*, *Helm* and *Terraform*, and ranked as *3/67* in livetest.
Designed out-of-cluster storage tier with *eksctl* and *Helm*, and ranked as *4/67* in livetest.

Influential Twitter Users Analysis with Spark and Scala
Performed the *PageRank* algorithm with *Spark* and *Scale* on *Azure Databricks* to extract the most influential Twitter users efficiently.

WeCloud Chat with Autoscaling across GCP and Azure
Containized profile, chat and login services of WeCloud Chat and replicated them along with *Horizontal Pod Autoscaler* across *Azure* and *GCP* via *Kubernetes* to increase fault tolerance.

Taxi Fare Prediction Application on GCP
Trained our taxi fare prediction module using XGBoost with *Keras* and fed it as well as other ML components deployed on *GCP* encompassing Speech2Text, Vision to a provided taxi application.

Movie Recommendation Service with Kafka Stream
Built a movie recommendation system with *Flask* and *Kafka* streaming input.
Compared k-means, SVD, NN and Gaussian processes, and performed ranking correlation evaluation.
Achieved no-downtime update with a load balancer and built *Jenkins* pipeline for CI/CD.

Computer System Programming with C
Realized cache simulator, matrix operation speedup with caching, heap memory allocator, proxy web server with object caching and tiny shell using *C*.