# JINGCHENG WU

(+1)4125001834 ⋄ jingchew@cs.cmu.edu ⋄ linkedin.com/in/wu-jingcheng ⋄ github.com/Wu-Jingcheng

## EDUCATION

**Carnegie Mellon University, School of Computer Science** — Pittsburgh, PA
MS in Artificial Intelligence & Innovation — GPA: 3.76/4.0 — *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** Java, Python, C/C++, 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, Machine Learning, Unit Testing

## PROFESSIONAL EXPERIENCE

**[Incoming]One of FLAG - Advertisement Group of a Video Platform** — Mountain View, CA
*Software Engineering Intern* — *May 2022-Aug 2022*

· Expected to research embedding techniques and implement the best with *C++* in the infra.

**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** — 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.
Implemented a load balancer redirecting and achieved no-downtime update.
Performed unit testing and built *Jenkins* pipeline to automatically test updated code.

**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*.