JERRY CHEN

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Software Engineer • Backend & DevOps • ML/AI Systems

EDUCATION

Carnegie Mellon University | **School of Computer Science**   Pittsburgh, PA
Master of Computational Data Science   May 2027
- Coursework: *Distributed Systems* (Fault Tolerance, Scalability, RPCs), *Computer Systems* (Memory Hierarchy, Concurrency, Program Optimization), *Machine Learning* (Probabilistic Models, Reinforcement Learning, Generative Models)

National Taiwan University   Taipei, Taiwan
Bachelor in Information Management — GPA: 3.98/4.3   Jun 2024
- Coursework: *Operating Systems, Cloud App Development, Database, Computer Networks, System Analysis and Design*
- Teaching Assistant: *Operations Research, Computer Programming*

SKILLS

Languages & Tools: Java, Go, C++, Python, SQL, JavaScript, Linux, Postman, Jira, Confluence
DevOps & Cloud: Kubernetes, Docker, Jenkins, Git, SonarQube, Liquibase, ArgoCD, AWS, Azure
Framework & Infra: Spring Boot, Kafka, Grafana, Prometheus, Loki, Gradle, Flask, Node.js, MySQL, React.js
Machine Learning & Data: PyTorch, Airflow, Spark, TensorFlow, Hive, HuggingFace, MCP, MLflow

WORK EXPERIENCES

Backend Engineer - Tech Fresh | **LINE Corporation**   Jul 2024 - Jun 2025
- Built **20+ Java backend** services & async jobs for a commerce platform with **21M+ daily users** on Taiwan's top social app.
- Solved a critical end-to-end tracing gap by writing custom **OpenTelemetry** instrumentation for a customized **Kafka** client.
- Enabled proactive alerting by building real-time microservice monitoring dashboards with **Grafana** and **Prometheus**.
- Designed and delivered a production-ready **PySpark/Airflow ETL** pipeline to ingest TB of data for precise marketing.
- Pioneered local testing environment, achieving **90%+** data pipeline coverage and cutting release-blocking defects by **35%**.
- Presented a public talk on backend architecture, covering data pipelines and **OLTP/OLAP** systems, to **100+** attendees.

Machine Learning Engineer (Lab Co-op) | **EVA Air**   Sep 2024 - Jan 2025
- Revamped the **Autoencoder**-based anomaly detection system for multi-event analysis and actionable pilot guidance.
- Spearheaded a performance overhaul of the turbulence data interpolation that shortened the model iteration cycle **by 50%**, achieving an **83%** speedup by resolving CPU/I/O bottlenecks with vectorized computations and **Parquet** format.

Software Engineer Intern | **Trend Micro**   Jul 2023 - Sep 2023
- Cut deployment time by **67%** with a unified **Jenkins** pipeline that automated release workflows for two cross-OS teams.
- Resolved an efficiency bottleneck by orchestrating parallel workflows across multiple repositories and **Jenkins shards**.
- **Owned** the end-to-end solution and scaled to **18+** platform modules, earning a 4.73/5 manager rating (**Top 10%** of interns).

Data Scientist Intern | **Cathay Financial Holdings**   Feb 2023 - Jun 2023
- Reduced hospital processing time by **68%** by automating verification for millions of receipts via an **OCR & NER** pipeline.
- Boosted handwritten Chinese word accuracy of paddleOCR model from **75% to 84%** with data augmentation.

PROJECTS

Reliable Distributed Miner   *Go, UDP*
- Engineered a reliable **Go** transport layer from scratch over UDP, ensuring dependable communication for distributed mining.
- Achieved system robustness and data integrity with over **20%** packet loss by implementing fault-tolerance mechanisms, including automated retransmissions, heartbeats, sliding windows for flow control, and checksums for validation.
- Designed a dynamic load balancing and task partitioning algorithm to minimize mean response time and prevent starvation, with an automated task reassignment mechanism to ensure high availability.

Dynamic Memory Allocator   *C, GDB*
- Optimized allocation throughput by **30%** with the implementation of segregated free lists and strategic best-fit searches.
- Enhanced memory utilization to **74%+** by eliminating block footers and utilizing mini-blocks, reducing fragmentation.

Online Judge Platform - Backend Engineering   *Python, Kafka*
- Scaled a university code-judging platform to support **1,200+** concurrent users by refactoring legacy system and implementing a message-driven backend architecture using **Kafka** for asynchronous submission processing.

AI GO Contest: House Price Prediction - Github   **Ranking: Top 7%** / 1000+ Teams
- Improved prediction accuracy by 47% through applying distance-based filtering to geographical data.
- Boosted performance by 12% by implementing beta target encoding and log transformations on price data.