Hung-Ching (Robin) Liu

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EDUCATION

Columbia University New York, NY
MS in Computer Science, GPA: 3.8/4.0 Expected Dec 2025
Courses: Distributed Systems, Cloud Computing, High Performance Machine Learning, Agents for Work

National Taiwan University Taipei, TW
BS in Computer Science, GPA: 4.1/4.3 Jan 2021
Courses: Data Structures, Computer Networks, Compiler Design, Operating Systems, Machine Learning

WORK EXPERIENCE

Trend Micro Taipei, TW
Software Engineer Aug 2022 - May 2024

- Developed RESTful APIs for frontend widgets and internal services, increasing visibility of cyber threats and attacks for Chief Information Security Officer (CISO) and Security Operations Center (SOC) customers
- Managed Airflow DAGs for data ingestion and ETL processes, integrating data from 5+ teams' sources
- Led and launched a new feature on network attacks to over 160 product managers, sales agents, and engineers
- Reduced 50% Azure cloud cost by reviewing resource usage and refactoring cloud infrastructure architecture
- Saved 40+% time to spin up entire services by refactoring deployment workflow and resolving dependency issues

Micron Technology Taichung, TW
Software Engineer Jun 2022 - Aug 2022

- Maintained and enhanced probe data applications (C++), saving 6 million dollars per year
- Developed 2 custom data loader classes to support new probe data formats, integrated into existing data pipeline

SKILLS

Programming Languages	C/C++, Java, Python, Go, JavaScript
Backend & Monitoring Stack	Spring Boot, OpenAPI, Redis, PostgreSQL, Prometheus, Grafana
Cloud & Container Orchestration	Azure Cloud Services, Terraform, Docker, Kubernetes, Helm Charts
Data Pipeline & ETL	Airflow, Azure Data Explorer, Apache Spark, PyTorch
Developer Tools	Git, GitHub Actions(CI/CD), Make File, Bash Shell, Linux

ACADEMIC EXPERIENCE

COMS4113 Fundamentals of Large Scale Distributed Systems, Columbia University New York, NY
Teaching Assistant, Advisor: Roxana Geambasu Sep 2025 - Dec 2025

- Led office hours and homework reviews to support students in understanding distributed systems concepts

COMS4156 Advanced Software Engineering, Columbia University New York, NY
Teaching Assistant, Advisor: Gail Kaiser Sep 2024 - Dec 2024

- Mentored 3 teams of 5 students to complete semester projects and hosted office hours for additional support

PROJECTS

Sharded Distributed Key-Value Store with Model Checking(Go)

- Implemented Paxos consensus algorithm and two-phase commit protocol to ensure fault tolerance and atomicity
- Designed and built model checker to validate state transitions and ensure system correctness under diverse scenarios

Bustub: Relational Database Management System(C++)

- Implemented buffer pool manager, extendable hash table, query executor and concurrent lock manager components in a database system in database system, passing online black box tests