

CHUNG-WEI CHEN

📞 (412) 980-5246 📩 c4488she@gmail.com 💬 linkedin.com/in/c4488she 🐾 github.com/c4488she

Education

Carnegie Mellon University <i>M.S. in Information Networking — GPA: 3.76/4.0</i> <i>Related Course: Database Systems, Distributed Systems, Cloud Infrastructure, Search Engine Parallel Computer Architecture and Programming</i>	Sep. 2024 – May 2026 <i>Pittsburgh, PA</i>
National Yang Ming Chiao Tung University <i>B.S. in Computer Science — GPA: 3.99/4.3</i> <i>Related Course: Database Systems, Network Security, Network Programming, Principles of Communications and Wireless Networks</i>	Sep. 2019 – June 2023 <i>Hsinchu City, Taiwan</i>

Skills

Programming languages: C/C++, Python, Java, SQL, JavaScript, C#, PHP, HTML/CSS
Skills: Database Systems, Distributed Systems, Cloud Computing, Computer Network, High Performance Computing
Technologies/Frameworks: Linux, AWS, GCP, Docker, REST API, OpenMP, MPI, CUDA, WireShark, Selenium, Git

Work Experience

Industrial Technology Research Institute <i>Software Engineer</i>	March. 2024 – July 2024 <i>Hsinchu City, Taiwan</i>
<ul style="list-style-type: none">Developed and managed a 3D object Web Viewer for Gaussian Splatting using Three.js, Nginx, and Google Cloud Platform. Ensured a responsive and user-friendly experience for viewing realistic 3D modelsIntegrating an automatic background removal feature into 3D Gaussian Splatting training pipeline, resulting in a 3-point increase in Peak Signal-to-Noise Ratio (PSNR)	

Industrial Technology Research Institute <i>Software Engineer Intern</i>	Feb. 2023 – Sep. 2023 <i>Hsinchu City, Taiwan</i>
<ul style="list-style-type: none">Developed a Unity program allows users to interact with products and live streams in Virtual Reality (VR), enhancing product size perception and boosting informed purchase decisions by 32%Developed a Selenium-based test automation framework that replaced repetitive manual QA processes, significantly reducing testing time and improving reliability.	

Selected Projects

Parallel VLSI Wire Routing Engine <i>OpenMP, MPI, High-Performance Computing, C++</i>	Oct. 2025 – Nov. 2025
<ul style="list-style-type: none">Built a high-performance VLSI wire-routing engine using OpenMP and MPI, implementing within-wire and across-wire parallelismAchieved strong scalability on multicore and multi-node systems (10.8× speedup on Pittsburgh Supercomputing Center's nodes) through workload balancing and optimized message-passing communication patterns.	
Cloud-Based E-Commerce Microservices System <i>AWS, Docker, Kubernetes, REST API</i>	March 2025 - May 2025
<ul style="list-style-type: none">Designed and deployed cloud-native e-commerce system using AWS, Docker, and KubernetesImplemented circuit breaker logic for external API reliability, Kafka-based asynchronous customer notification via email, and MongoDB-backed query service using CQRS and data replication.	
Database Buffer Pool Manager <i>Database Management System, C++</i>	Feb. 2025
<ul style="list-style-type: none">Implemented a buffer pool manager for a disk-oriented database management system (DBMS), responsible for efficiently managing pages between disk and memoryOptimized memory access and synchronized page access, ensuring consistency in multi-threaded environment	
Transparent Remote File Operations <i>Distributed System, TCP, C, Java</i>	Jan. 2025
<ul style="list-style-type: none">Built a Remote Procedure Call (RPC) system that supports remote file operations (open, read, write, etc.) over TCP while preserving the same interface as local file operationsImplemented a check-on-use caching mechanism to reduce redundant remote calls and significantly decrease network traffic.	
Text-based Search Engine System <i>Apache Lucene, Python</i>	Aug. 2024 – Dec. 2024
<ul style="list-style-type: none">Implemented a text-based search engine using various scoring method including BM25, feature-based models, and BERT for semantic retrieval.Implemented personalized search and result diversification algorithms to improve relevance and user experienceLeveraged statistical analysis and lexical retrieval models to enhance search accuracy, including methods for handling term frequency, inverse document frequency, and query expansion	