


Wen-Hsing Huang

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WORK EXPERIENCE

ASM America

02/2024 - Present

Software Engineer II

Phoenix, AZ

- Ensured flawless software installation & operation through onsite & on-call troubleshooting in the cleanroom lab.

Microsoft

07/2021 - 01/2022

Program Manager Intern

Taipei, Taiwan

- Developed dashboard to monitor video ads demand, demand for pricing strategies, market pricing comparisons, and global availability for Microsoft Audience Network.
- Created and optimized data pipelines by adjusting query formulation with **COSMOS**, **Azure Data Explorer**, **SCOPE**, and **C#**.
- Leveraged **Power BI** to analyze big data and design visualizations for data insights.
- Performed ad-hoc analysis of production alerts, synthesized data into actionable summaries for developers for problem resolution.
- Analyzed data to validate the feasibility of proposed metric for image stock keyword recommendations.
- Redesigned sales promotion tactic template schema and established database connectivity.

PROJECTS

Convolution parallel computing optimization of CNN

- Profiled and addressed performance bottlenecks with **Nsight Compute & Nsight Systems**.
- Optimized parallel convolution algorithm with **CUDA C++**, achieving a 53% performance increase over the baseline using tiled shared memory, loop unrolling, FP16 arithmetic, and Streams.

Distributed Machine Learning Inference System

- Developed a high-performance distributed system using **Python** and **network programming**, integrating failure detection, membership management, file system operations, and job scheduling for optimal efficiency.
- Incorporated SWIM-style failure detection and ring-based membership for enhanced availability and fault tolerance.
- Devised an efficient job scheduling algorithm to balance processing time, ensuring a maximum 20% variance between batches.

Crime Data Web Application

- Developed a robust data pipeline using Python and SQL to preprocess and import crime dataset into a Cloud SQL instance.
- Optimized MySQL database performance by implementing advanced features such as stored procedures and triggers for efficient data retrieval and manipulation.
- Engineered a scalable backend using Node.js, providing comprehensive CRUD functionality to interact with the database.
- Designed and developed intuitive frontend user interface using React.js and PrimeReact.
- Deployed web app on GCP Linux VM by configuring virtual private cloud environment and managing processes using PM2.

EDUCATION

University of Illinois Urbana-Champaign

08/2022 - 12/2023

Master of Computer Science

Champaign, IL

- **GPA:** 3.81 / 4.0

National Central University

09/2018 - 06/2022

Bachelor of Science in Computer Science and Information Engineering

Taoyuan, Taiwan

- **GPA:** 3.98 / 4.0, **Rank in Dept.:** 1st / 101

SKILLS

Programming Languages: Python, Javascript, C/C++, Java, C#, SQL, Matlab, HTML/CSS, Assembly, VHDL, \LaTeX

Tools & Frameworks: Git, Google Cloud Platform, CUDA, Nsight Compute, Nsight Systems, React.js, Node.js, MySQL, MongoDB, Neo4j, Power BI, Android

Selected Courseworks: Distributed Systems, Applied Parallel Programming, Database Systems, Data Structure, Algorithms, Operating System, Computer Organization, Computer Network

Languages: English (Fluent), Mandarin (Native)