




# Wen-Hsing Huang

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## EDUCATION

### University of Illinois Urbana-Champaign

08/2022 - Expected 12/2023

*Master of Computer Science*

*Champaign, IL*

- **GPA:** 3.78 / 4.0
- **Coursework:** Distributed Systems, Applied Parallel Programming (CUDA), Database Systems

### 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.:** 1<sup>st</sup> / 101
- **Coursework:** Data Structure, Algorithms, Operating System, Computer Organization, Computer Network
- **Awards:** Phi Tau Phi honorary member, 3x ICPC regional contest Bronze Award, SHUN-I CHU ZyXEL Scholarship (ca. \$3600), Scholarship for Excellence (ca. \$700), 6x Honor for Academic Excellence (ca. \$200)

## WORK EXPERIENCE

### Microsoft

07/2021 - 01/2022

*Program Manager Intern*

*Taipei, Taiwan*

- Developed and maintained an automated report for monitoring product demand and OKRs in advertising industry.
- Created and optimized data pipelines by adjusting query formulation by COSMOS, Azure Data Explorer, SCOPE, and C#.
- Leveraged Power BI to analyze big data and design visualizations for data insights.
- Conducted data analysis on production alerts and provided summaries to developers for problem resolution.

### National Central University

03/2020 - 06/2021

*Undergraduate Research Assistant*

*Taoyuan, Taiwan*

- Developed object tracking and trajectory prediction for autonomous vehicles using Python and open-source resources.
- Integrated a high-performance detection-based tracking solution, reducing id switches by 45%.
- Optimized data pipeline to retrain trajectory prediction model with new datasets to avoid open-source contamination.

## PROJECTS

### 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 a 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.

## PUBLICATION

Chia-Yu Lo, **Wen-Hsing Huang**, Ming-Feng Ho, Min-Te Sun, Ling-Jyh Chen, Kazuya Sakai, Wei-Shinn Ku,

"Recurrent Learning on PM2.5 Prediction Based on Clustered Airbox Dataset"

in **IEEE Transactions on Knowledge and Data Engineering**.

## SKILLS

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

**Tools & Frameworks:** Git, Google Cloud Platform, React.js, Node.js, MySQL, MongoDB, Neo4j, Power BI

**Skills:** Distributed Systems, Database Systems, Network Programming, Machine Learning, Data Analytic, Web, Android, Git, Power BI

**Languages:** English (Fluent), Mandarin (Native)