Wen-Hsing Huang

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EDUCATION

University of Illinois Urbana-Champaign   08/2022 - 12/2023 (Flexible)
Master of Computer Science   Champaign, IL
- **GPA**: 3.59 / 4.0
- **Coursework**: Distributed Systems, Database Systems, Topics in Software Engineering

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
- **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 using internal SQL databases, 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 Mapping 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, 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)