Ching-Ting Tsai

Email: tct20422@gmail.com | Phone: (548) 577-3860 | Address: Waterloo, ON

LinkedIn: www.linkedin.com/in/chingtingtsai | Profile: https://chingtingtsai.github.io/

TECHNICAL SKILLS

Programming Languages: C/C++, Python, Java, HTML, CSS, JavaScript (React), SQL, MongoDB, MIPS, git

Software: Linux, Visual Studio, Eclipse, MySQL, GitHub, MARS, VMware Workstation, MATLAB

RELEVANT COURSEWORK

Principle in System Design, Data Structure Implication and Analysis, Information Retrieval, Projects in Databases and Web Applications, Human Computer Interaction, User Interaction Software, Beyond SQL Data Management, Machine Learning and Data Mining, Data-Intensive Distributed Analytics

PROJECTS

Sentiment Analysis   September 2023 – December 2023

- Implemented distributed computing techniques to construct a sentiment analysis model handling 1.6 million of Twitter data, addressing the challenge posed by the exponential growth in data volume.
- Reduce running time by 13% using PySpark library on data preprocessing and improved testing accuracy by 10% with a customized neural network over Spark MLlib's logistic regression model.

Mission Control: All Systems Go (NASA Psyche)   January 2023 – June 2023

- Led a team of four developers, ensuring efficient task delegation and adherence to project timelines.
- Collaborated with ASU experts to integrate precise scientific information for the Psyche Mission.
- Built a C# and Unity-based game from scratch with customized pixel art assets and sound effects.

Fablix   September 2022 – December 2022

- Developed a full-stack movie website using Java, Maven, and MySQL, and deployed it on AWS.
- Enhanced website security by implementing HTTPS, reCAPTCHA, and encrypted passwords.
- Achieved a 60% improvement in website performance by optimizing JDBC Connection Pooling, implementing MySQL Master-Slave Replication, and incorporating a load balancer.

Search Engines   January 2022 – March 2022

- Led a group of 3 in developing a web crawler and information retrieval system using Python.
- Retrieved 15,000+ valid URLs and parsed and tokenized 35,000+ HTML pages to create inverted index.
- Discussed and optimized the algorithm for trap detection, enhancing search effectiveness and efficiency.

EXPERIENCE

STANCE LAB   June 2022 – January 2023

Research Assistant

- Compared and implemented pretrained cityscape semantic segmentation model on 100+ street view data collected using Google API and analyzed the environment and traffic in Orange County, CA.
- Applied the DeepLab model to generate labels on images collected from google street view API.
- Held weekly meetings with the professor to report my updates and discuss issues I encountered.

EDUCATION

B.S. in Computer Science, University of California, Irvine   September 2019 - June 2023

Master of Data Science and Artificial Intelligence, University of Waterloo   September 2023 - April 2025