

Yushan Lu

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Education

University of Wisconsin-Madison, M.S. in Computer Science, GPA: 3.83/4 09/2023 – 12/2024

- Coursework: Big Data Systems, Data Science Programming, Database Management Systems, Data Cleaning & Integration, Operating Systems, Computer Networks, Software Engineering

National Tsing Hua University, B.S. in Economics Hsinchu, Taiwan | 09/2013 – 05/2017

Programming Skills

- **Programming Language:** C/C++, Java, Python, and JavaScript
- **Web Development:** HTML/CSS, TypeScript, Express.js, FastAPI, GRPC, React.js, and Node.js
- **Data Engineering/Analytic:** Cassandra, Spark, HDFS, Kafka, Pandas, PyTorch, SQL, and BigQuery
- **DevOps:** Google Cloud Platform, Docker, and Git

Work Experience

ADLINK Technology Industrial Engineering, Senior Engineer 09/2021 – 08/2022

- ADLINK is the #2 industrial computer manufacturer worldwide with annual revenue over 3 billion USD
- Applied **Agile methodology** to examine existing manufacturing processes and pinpointed bottlenecks; identified actionable steps for automation and collaborated with hardware engineers to design a refined workflow
- Analyzed working hour data and discovered patterns of labors' inefficient behaviors; recommended COO solutions, which **lowered manpower by 7%** in the first two months after implementation

JPMorgan Investment Banking Division, Senior Analyst 05/2018 – 07/2020

- Utilized **Bloomberg APIs** to analyze market data on 1,000+ listed companies; wrote **clear documentations** to recommend 10 companies with best funding potentials, two of which were successfully funded by JPM
- Designed an **automated workflow** that streamlined the process of answering 5 rounds of query submission each from 20 potential investors, **saving 60% of time**

Selective Projects

OnlyMemes - Full-Stack Video Processing Service - TypeScript / Node.js / React.js / Firebase 01/2024

- Engineered a scalable video transcoding service from the ground up using **ffmpeg** for processing, **Pub/Sub** for messaging and buffering, and **Cloud Run** for separate deployment of frontend and backend
- Leveraged **Cloud Storage** to manage raw and processed videos, implementing access control through **Signed URLs** from **Firestore** for authenticated users
- Stored video metadata in **Firestore**; built a Next.js web application to fetch and display videos efficiently

Othello AI - Board Game Application - Python / MySQL / FastAPI / Pytest / Git / Docker 12/2023

- Volunteered to be the team lead in developing a web application for the board game "Othello", engineering key features including **player-vs-player** functions and **step-optimization** suggestions
- Developed a robust backend using FastAPI and MySQL, ensuring efficient data management and reliable performance for game functionality; deployed the backend in a Docker container for scalable and consistent deployment
- Enhanced AI strategy with Alpha-beta pruning and Monte Carlo tree search algorithms; implemented a user-friendly game interface using **React JS**

Cassandra-Based Weather Data Platform - Python / Spark / Cassandra / GRPC 11/2023

- Architected a Cassandra-based data storage solution for NOAA's global weather data, focusing on **schema optimization** with partition and cluster keys to efficiently manage and access large datasets
- Developed a data collection server integrated with **Apache Spark** for in-depth data analysis, enabling seamless data flow and processing between Cassandra and Spark for actionable weather insights
- Optimized Cassandra configurations for high write availability, employing strategic read/write tradeoffs to maintain system integrity and performance