Yushan Lu

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Education

University of Wisconsin-Madison 09/2023 – 12/2024

M.S. in Computer Science Madison, WI

- Coursework: Operating Systems (C), Database Management Systems (C++ / SQL), Computer Networks (Java) / Software Engineering (JavaScript / React.js), Data Programming (Python) , Big Data Systems (Python) , Data Cleaning & Integration

Skills

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

Selective Projects

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

- Developed and implemented a cloud-based video processing server and a storage system using Cloud Storage, enabling efficient uploading of videos from authenticated users
- Engineered a scalable video transcoding service using Pub/Sub for messaging and Cloud Run for hosting, ensuring high-performance video processing and seamless cloud integration
- Built a full-stack Next.js web application hosted on Cloud Run, with a backend leveraging Firebase Functions to manage and fetch video metadata from Cloud Firestore

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

- Led a team of three in developing a web application for the board game "Othello" to boost student productivity, engineering key features including player-vs-player functions and step-optimization suggestions
- Enhanced AI strategy with Alpha-beta pruning and Monte Carlo tree search algorithms, and deployed the backend in a Docker container for scalable and consistent deployment
- Designed and implemented a user-friendly game interface using React JS, HTML, and CSS, and developed a robust backend using FastAPI and MySQL, ensuring efficient data management and reliable performance for game functionality

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

- Architected and engineered 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 real-time 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, prioritizing sensor data uploads while ensuring data consistency and reliability, employing strategic read/write tradeoffs to maintain system integrity and performance

Work Experience

ADLINK Technology Industrial Engineering 09/2021 – 08/2022

Senior Engineer

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

JPMorgan Investment Banking Division 05/2018 – 07/2020

Senior Analyst

- Utilized Bloomberg APIs and analyzed market data on 1,000+ listed companies in Taiwan; identified and recommended 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 required and a total of 300 hours
- Led a cross-functional team and worked closely with client to structure marketing strategies; implemented feedback on an information memorandum, which was delivered 1 months ahead of schedule while attracting 1.5 times more investors