

# Yushan Lu

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## Skills

- **Certification:** AWS Certified Solutions Architect - Associate, AWS Certified Cloud Practitioner
- **Programming Languages:** C/C++, Java, Python, and JavaScript
- **Web Development:** HTML/CSS, TypeScript, Express, FastAPI, Rest API, gRPC, React.js, and Node.js
- **Data Engineering/Analytic:** Cassandra, Spark, HDFS, Pandas, PyTorch, SQL, MongoDB, and BigQuery
- **High-Performance Computing:** OpenMP, CUDA, and Parallel Computing

## Work Experience

**Budgetwise**, Backend Developer Intern, CA 06/2024 – 09/2024

- Developed backend solutions for personal finance management, leveraging **Express, Node.js, REST APIs, and Firebase**, while integrating third-party APIs to enhance functionality and user experience
- Refactored and optimized the existing codebase for maintainability and performance, and authored detailed, developer-friendly **documentation** using **Postman** to streamline API testing, debugging, and integration

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

- Analyzed working hour data and discovered patterns of labors’ inefficient behaviors; recommended COO solutions using **Kanban**, which **lowered manpower by 7%** in the first two months after implementation
- Compiled cross-regional teams KPIs, identified trends and anomalies, collaborated with department heads to resolve issues, and proposed new KPIs that enhanced operational efficiency

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

- Used **Bloomberg APIs** to automate data extraction and analysis for **1,000+** listed companies, building consensus across **stakeholder groups** and **prioritizing resources** to align with business needs; delivered actionable insights that secured funding for two companies
- Led **cross-functional** collaboration and designed a data management system with an **automated workflow** to track deal flow and investor queries, improving data retrieval accuracy and reducing response time by **40%**

## Selective Projects

**Taiwania - Full-Stack Taiwanese Dictionary - TypeScript / React.js / PostgreSQL / RDS** 08/2024

- Scraped, cleaned, and processed data using **BeautifulSoup** and **Pandas**, integrating with **FastAPI** and **LangChain** to leverage the ChatGPT-4 model for accurate translations and data augmentation
- Deployed containerized backend services with **Docker**, utilizing AWS **ECS** and **ECR** for scalable, cloud-native deployments, and automated **CI/CD** pipelines with **GitHub Actions**
- Implemented advanced keyword search and filtering capabilities in the API, optimizing data retrieval and enhancing user experience with efficient query handling

**Monte Carlo Simulation on Barrier Option with CUDA - C++ / OpenMP / CUDA / Finance** 12/2024

- Developed a **GPU-accelerated** Monte Carlo simulation for Barrier Option Pricing using **CUDA**, achieving a 1,889x speedup over sequential CPU implementation
- Optimized performance through global memory coalescing and parallelization (**OpenMP / CUDA**), enabling efficient large-scale financial simulations

## Education

**University of Wisconsin-Madison**, M.S. in Computer Science, GPA: 3.9/4 09/2023 – 12/2024

- Relevant Coursework: Operating Systems, Big Data Systems, Distributed Systems, Database Management Systems, High Performance Computing, Data Science Programming, Computer Networks, Software Engineering

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