

MINGHAO DU

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Actively Seeking Summer 2023 Software Engineer Internship Opportunities

EDUCATION

Cornell University, Cornell Tech, New York, NY Expected May 2024
Master of Science in Computer Science and Information Systems
University of Liverpool, Liverpool, UK Sep 2018-July 2022
Bachelor of Science in Computer Science | GPA: 3.92/4.00 (First Class | **Top 1%**)
Relevant Coursework: Data Structure and Algorithms, Operating System, Computer Network, Database, Software Engineering

TECHNICAL SKILLS

Languages: Python, Java, C/C++, C#, HTML, CSS, JavaScript, SQL, PHP, Shell, Node.js
Frameworks: Flask, SpringBoot, React, TensorFlow, PyTorch
Other: Git, Linux, Microsoft Azure, Mongo DB, DevOps, Postman, AWS, RESTful API, Docker, Hadoop, Spark, Jenkins

EXPERIENCE

Software Engineer Intern | C#, .NET, React, AWS Aug 2021-Nov 2021
Emerson Electric Co. Nanjing, China

- Developed a product repair application for post-sale services; deployed CI/CD pipeline by Jenkins to reduce the development time by 35% and outcompeted 3 other agile development teams, producing a revenue increase of over 11%
- Built RESTful APIs in C# and .NET framework, designed responsive layout web page utilizing React.js on the client side
- Maintained AWS Linux Server to handle request traffic, reduced database latency by 27% by optimizing CRUD functions
- Extended the application to the mobile side by building the WeChat Mini program from scratch, designed the UI/UX of the app and implemented the prototype with a React-like Model-View-ViewModel (MVVM) render engine

Backend Software Developer | Python, Flask, SQL, Docker, AWS | [Access](#) Mar 2021-Jun 2021
Xi'an Jiaotong-Liverpool University Suzhou, China

- Designed and implemented a system for facilitating students' grouping, serving over 200 users simultaneously. Containerized the service by Docker and deployed across AWS EC2 instances, saving over 14,000 Chinese Yuan for XJTU IT Department
- Built RESTful APIs using the Python Flask backend and adopted SQLAlchemy toolkit for Object-Relational Mapping
- Crafted fifty test cases for six main user scenarios by utilizing Pytest framework, cooperated with a team to process **30+** tickets
- Worked in an Agile development manner (Scrum process), applied Microsoft Azure Boards to maintain PBIs and sprints inspection, used Git for repository version control and management

Software Engineer Intern | Java, Spring Jun 2020-Aug 2020
Songbai Information Technology Hangzhou, China

- Collaborated with a team to develop financial software in Java and the SpringMVC+Spring+Mybatis (SSM) framework that provides comprehensive financial asset transaction information and consulting-related services for customers
- Improved system robustness by 15%, solved data inconsistencies by building a thread lock with Synchronized blocks

PROJECTS

[Machine Learning Framework Development](#) | Python, CUDA, CI/CD Fall 2022

- Built a comprehensive machine learning framework from scratch via Python for efficiently training deep learning models
- Implemented an object-oriented tensor backend by following CI/CD pipeline, wrote 200+ unit tests via Pytest framework
- Adopted parallel and multi-thread computation, turned 1000+ lines of code to CUDA version and deployed it on GPU, improving the computation performance by 41%

[Wonderland Education Platform](#) | PHP, SQL, Apache Spark, DevOps Spring 2022

- Worked as a Product Owner and Scrum Master; Designed and developed an academic platform using PHP for utilizing alumni networks to help students share overseas study experiences, successfully engaging over 300 students on campus
- Built 30+ RESTful APIs; Cleaned 10,000+ user data by Apache Spark to facilitate customized recommendation accurately

[File Synchronization Application](#) | Python, Socket, UDP/TCP, Multi-thread Fall 2020

- Developed an end-to-end automatic file synchronization application via Python Socket network programming, allowing users to synchronize files across different devices; Innovated a novel UDP/TCP based file transfer protocol for scalable file transfer
- Addressed packet overlapping issues in transmission by flow control and manually adjusting the receiver buffer size; applied multithread techniques to overcome concurrency issues, improving the transmission rate by 24%