**Yimian Liu**

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**TECHNICAL SKILLS**

**Programming Languages**:Python, TypeScript, JavaScript, C, C++, HTML/CSS, Java, Go, Rust, SQL, Bash, Shell

**Tools/Frameworks**: React, Node.js, NestJS, FastAPI, TensorFlow, MySQL, Redis, MongoDB, Git, TCP, gRPC, Docker, Kubernetes, Nginx, Kafka, AWS (EC2, RDS, S3), Linux, REST, GraphQL

**Concepts**: Object-oriented programming (OOP), Web Development, App Development, DevOps

**WORK EXPERIENCE**

**Elseware Capital Jan 2024 – Present**

*Full Stack Software Engineer (Remote) New York, NY*

* Led development of a real estate trading full stack application with real-time blockchain transactions, portfolio management, asset tokenization, and KYC verification processes using React, NestJS, FastAPI, and MySQL.
* Unified user experience by building a responsive frontend for both desktop and mobile using React and Less, visualizing trading data with Chart.js and map features using Leaflet in collaboration with UI/UX designers.
* Engineered a user management system with 40% faster MySQL database performance by advanced indexing, leveraging Prisma ORM for efficient data management, and implemented JWT-based authentication with NestJS.
* Reduced response times by 60% for over 1,000 concurrent users, by building asynchronous RESTful APIs in Python, resulting in faster order execution, increased trading volume, and improved real-time market data access for users.
* Achieved a 75% reduction in deployment time and ensured 99.9% uptime with CI/CD pipelines via GitHub Actions.

**Guzman Energy Jul 2023 – Dec 2023**

*Software Engineer Intern New York, NY*

* Delivered cross-platform AI scribing mobile app for iOS and Android from scratch using React Native, improving user accessibility and engagement by implementing the UI/UX team’s design from Figma.
* Enhanced app responsiveness and reduced API calls by 60% through architecting a state management system using Redux, leading to a smoother user experience and improving real-time data handling.
* Reduced rendering time by 80% by optimizing app caching techniques and custom React hooks for a centralized audio player, enabling switching between various audio clips while only maintaining a single player instance.
* Implemented two-factor authentication using email and SMS via Twilio, with one-time passcodes (OTP) stored in Redis and Node.js, increasing user trust and satisfaction by implementing this security feature.
* Led growing intern team, improving collaboration and code quality by establishing a Git workflow and configuring TypeScript ESLint, resulting in faster onboarding and reduced code conflicts.

**PROJECTS**

[**Full-stack Development of Access Control System**](https://courses.ece.cornell.edu/ece5990/ECE5725_Fall2022_Projects/4%20Tuesday%20December%2013/1_Access_Control/Wednesday_zl826_yl996_website/index.html)**| Cornell University**

* Designed and implemented a Raspberry Pi access control system, enhancing security through facial recognition using OpenCV and LBPH algorithm, remote management, and comprehensive activity logging.
* Achieved a 5x improvement in facial recognition speed (10 fps) by implementing a multi-processing architecture across 4 CPU cores, enhancing the system’s efficiency and performance.
* Developed a full-stack solution with a React-based frontend, Flask API gateway, and MariaDB database, enabling real-time video streaming, remote control, and activity monitoring, while learning React in just 1 week.
* Integrated hardware components, including Pi camera, servo motor, and PiTFT, while creating an object-oriented touchscreen UI with Pygame for seamless local system interaction.

**Kubernetes-Based Microservices Platform with Advanced Observability** | **Personal Project**

* Architected a high-availability Kubernetes cluster on 3 Debian servers using Kubeadm and Helm, increasing service uptime and resilience for containerized web services.
* Implemented Nginx Ingress with geolocation-based DNS routing for global load balancing, configured Prometheus with Grafana for real-time metric monitoring and alerting.
* Established centralized logging system using Filebeat to collect node and Docker logs, Kafka for data streaming, Logstash for filtering before storage in Elasticsearch, and Kibana for log visualization and analysis.

**EDUCATION**

**Cornell University Aug 2022 – Dec 2023**

*Master of Engineering in Computer**Engineering, GPA: 3.94/4.00**Ithaca, NY*

**Relevant coursework**: Deep Learning (A+), Computer Vision (A+), Machine Learning, Distributed Computing Principles, Computer Networks, Embedded Operating System, Digital Systems with Microcontrollers, UNIX Tools and Scripting

**University of Liverpool Sep 2017 – Jul 2021**

*Bachelor of Engineering with Honors in Electrical and Electronic Engineering, GPA: 3.83/4.00**Liverpool, UK*