

Qian Hang

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Education

Nara Institute of Science and Technology

April 2025 - Present

Master of Engineering in Information Science

Jiangsu University

Sept 2019 - June 2023

Bachelor of Engineering in Internet of Things Engineering

Research

Nara Institute of Science and Technology

April 2025 - Present

- Researching applications of userspace eBPF in networking and blockchain systems
- Developing novel approaches for network monitoring and security using eBPF technology
- Investigating performance optimization and scalability solutions for blockchain networks
- Implementing and testing eBPF-based solutions for real-time network analysis

Experience

Red Hat, Inc.

June 2022 - Sept 2022

Test Engineer Intern

Remote

- Conducted comprehensive testing of enterprise software solutions and cloud services using Python and Shell scripting
- Collaborated with development teams to identify and document software defects in OpenStack and Linux-based systems
- Developed and executed automated test cases using Python to ensure product quality and reliability
- Utilized Linux system administration skills and OpenStack tools to improve testing efficiency and automation

Infodator, Inc.

Feb 2023 - June 2023

Site Reliability Engineer Intern

On-site

- Developed and maintained microservices using Golang for cloud infrastructure automation
- Implemented monitoring and alerting systems to ensure high availability of services
- Created automated deployment pipelines and infrastructure-as-code solutions
- Optimized system performance and reduced response time by implementing efficient logging and tracing

Projects

Web-to-Animation AI Generator | Python, React, FastAPI, OpenAI, FFmpeg

- Developed a full-stack application that converts webpage content into AI-generated animations
- Implemented web scraping and content analysis using Python to extract key elements from webpages
- Integrated OpenAI API for content analysis and FFmpeg for video processing and animation generation
- Built a responsive frontend using React and RESTful backend using FastAPI for seamless user experience

Lightweight RPC Framework | C++, Protocol Buffers, Network Programming

- Designed and implemented a high-performance RPC framework from scratch using modern C++
- Developed custom protocol buffer serialization for efficient data transmission
- Implemented asynchronous communication with event-driven architecture
- Added support for service discovery and load balancing mechanisms

Distributed Cache System | Golang, gRPC, Consistent Hashing

- Implemented a distributed caching system with high availability and scalability using Golang
- Designed and implemented consistent hashing algorithm for efficient data distribution across nodes
- Developed cache invalidation and replication mechanisms for data consistency

Skills

Programming Languages: Golang, Python, C++, JavaScript, Shell Script

Web Technologies: React, FastAPI, RESTful APIs, gRPC

Cloud & Infrastructure: Linux, OpenStack, Docker, Kubernetes, FFmpeg, Protocol Buffers

Soft Skills: Problem Solving, Team Collaboration, Technical Documentation

Languages: English (Advanced), Japanese (Communication Level)