HU, Yinan

SECCLO Erasmus Mundus Joint Master's Student at Aalto & KTH

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PROFILE

I'm an Erasmus Mundus Joint Master's student at Aalto & KTH. Through academic and internship experiences, I have cultivated a strong background in cloud computing, backend development and cybersecurity. With my expertise and interests, I'm seeking to leverage my technical expertise and innovative problem-solving skills to contribute to a dynamic team.

WORK EXPERIENCE

Cloud Research Trainee May. 2024 - Aug. 2024

Ericsson Jorvas, Finland

- Developed CI/CD pipelines using Ansible, Terraform, and OpenStack to enable efficient and scalable deployments.
- Investigated the feasibility of porting parts of a large C codebase to WebAssembly and wasi-libc.
- Implemented a WebAssembly component emulating a set of 3GPP OpenAPI endpoints.
- Worked with WASI HTTP and observability interfaces.
- Collaborated with other team members to present and document the results and a demo of the work.

Go Backend Intern Dec. 2022 - Apr. 2023

1Token Shanghai, China

- Built a timed trading scheduler using Docker, RabbitMQ and Celery to produce high-frequency trading records on exchange accounts, and provided data support for reconciliation and htv2 modules.
- Participated in the development of the Exchange Platform System, integrated APIs of exchanges using Go, and provided infrastructure support for the account management module, history module, and volume statistics module.
- Developed API demos using Python scripts, to demonstrate API signature and API invocation methods for customers.
- Leveraged Git and Agile collaboration to promote modern software practices and teamwork.

EDUCATION

SECCLO (Security & Cloud Computing) Erasmus Mundus Joint Master Programme Aug. 2023 - Jul. 2025

M.Sc. in Security and Cloud Computing

- Full-ride scholarship, includes full tuition fee waiver, covers all living costs and travel expenses
- School of Science Dean's Incentive Scholarship
- Double degree, Aalto University (Finland) & KTH Royal Institute of Technology (Sweden)

Beijing Institute of Technology Sept. 2019 - Jul. 2023

B.Sc. in Computer Science and Technology

- GPA: 3.8/4.0
- Bachelor's Thesis: Deep Reinforcement Learning based Optimization of Mobile Short Video Streaming

ACADEMIC EXPERIENCE

Individual Project: A Scalable Online Question and Answer (Q&A) Platform

Position: Independent Project Developer Nov. 2023 - Dec. 2023

Overview: I developed a scalable online Q&A platform using JavaScript, improved scalability with innovative features such as load balance, scaling database and rate-limited user posts, and achieved automatic updates for a more user-friendly experience.

- Implemented Server-Sent Events (SSE) to achieve seamless real-time updates for new questions and answers.

Updated on Jan. 2025

- Leveraged RabbitMQ to implement the Event-driven architecture, which enables the server to handle thousands of user submissions.
- Utilized Redis for efficient caching, improving the overall performance of the database query.
- Implemented Kubernetes configurations with automatic application scaling and database scaling for efficient deployment on Kubernetes clusters.

Group Project: Ranging-based Secure Neighbor Discovery in Wireless Networks
Position: Group Member Sep. 2024 - Dec. 2024
Overview: I participated in a course project for Communication System Design, focusing on the development of secure communication protocols and cryptographic modules.

- Designed and implemented a Diffie-Hellman-based key exchange protocol to establish secure communication tunnels.
- Developed secure neighbor discovery mechanisms leveraging TCP and UDP protocols.
- Used Python to developed a cryptographic service module using gRPC, leveraging Python's advanced cryptographic libraries to ensure robust security and efficient performance.
- Created a lightweight Certificate Authority (CA) for issuing, managing, and verifying digital certificates, enhancing the project's authentication infrastructure.

Bachelor's Thesis: Deep Reinforcement Learning based Optimization of Mobile Short Video Streaming
Position: Student Researcher Jan. 2023 - Jun. 2023
Overview: To optimize short video streaming, I analyzed and formulated the features of short video streaming and user swiping behavior, and proposed a deep reinforcement learning based optimization method for mobile short video streaming.

- Built a demo of short video streaming server and client using Nginx and FFmpeg, to analyze the features of short video streaming.
- Proposed a deep reinforcement learning based optimization method of short video streaming, and implemented it using Tensorflow.
- Utilized Python to build a test bed for analyzing the performance of proposed model.

EXPERTISE

Programming Languages ***Experienced:*** Python | Go | JavaScript ***Familiar:*** C | C++ | Rust | Java
Cloud Docker | Kubernetes | GCP | OpenStack | gRPC | Nginx
DevOps Terraform | Ansible | GitLab CI/CD
Web Dev Tools Git | Node.js | React.js | CSS | HTML | WebAssembly
Databases/Caching MySQL | MongoDB | Redis
Networking Network Protocols | Linux Networking Tools | SSL/TLS
Security Information Security | Ethical Hacking | Wireshark | Metasploit

OTHERS

Certificates:
- Certified Kubernetes Administrator (CKA) - *issued by Cloud Native Computing Foundation (CNCF)*

Honors:
- Mar. 2023 Erasmus Mundus Joint Master Degrees (EMJMD) Student Scholarship
- Jun. 2023 Honor of Beijing Outstanding Graduates
- Apr. 2020 Meritorious Winner, Mathematical Contest in Modeling (MCM)

Language: Chinese (Native) English (Professional working proficiency)
Interests: Rock Climbing, Hiking, Film Photography