

# VAHAGN GHAZARYAN

[ghazariann.github.io](https://ghazariann.github.io)

## EDUCATION

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**Shanghai Jiao Tong University**  
B.Sc. in Software Engineering

Sep 2021 - July 2025

**Shanghai Normal University**  
One-year intensive Chinese language course

Sep 2020 - July 2021

## RESEARCH EXPERIENCE

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**Institute of parallel and distributed systems, Shanghai Jiao Tong University**  
Undergraduate Research Assistant

- **LLM-Powered Background Task Execution on Android Framework** Sep 2024 - Present  
Advisor: [Mingyu Wu](#)  
Evaluated the impact of large language model-driven background tasks on Android performance.
- **Linux Kernel Memory Management Optimization** June 2024 - Sep 2024  
Advisor: [Dond Du](#)  
Conducted research on the `madvise()` system call and implemented a smart-`madvise` kernel module to enhance dynamic memory optimization based on application memory usage patterns.
- **eBPF-Based Information Flow Control** Jan 2024 - June 2024  
Advisor: [Dond Du](#)  
Developed an eBPF-based security enhancement system to dynamically monitor and enforce information flow policies via IPC channels, such as signals and sockets.

## INDUSTRY EXPERIENCE

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**Cognaize, LLC,**  
*Junior Data Engineer at Data Science Team*

Sep 2018 - Sep 2020

- Assisted the team with data extraction and pre-processing tasks. Developed a Python library that provides a unified interface for accessing various storage APIs, including AWS S3, Google Cloud Storage, Google Drive, and Dropbox.

## TEACHING EXPERIENCE

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**Shanghai Jiao Tong University** | *Teaching Assistant*

- SE1301 - Software Engineering Practice taught by Prof. Du Dong Fall 2024

## PROJECTS

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- **OpenHarmony Screen Mirroring Controller**  
Screen mirroring service for the OpenHarmony system, achieving an average of 20 FPS with minimal resolution loss, enhanced with remote control features such as touch, scroll, keyboard input.
- **minik8s**  
Lightweight Kubernetes-like container orchestration tool, built from scratch in Go, featuring full CI/CD pipeline integration and comprehensive testing.
- **Distributed File System**  
Inode-based distributed file system in C, emphasizing concurrency, atomicity, and crash recovery.
- **Raft and Map Reduce**  
Raft consensus algorithm and MapReduce programming model in C based on academic papers.
- **Tiger-Compiler**  
Complete compiler for Tiger in C++, from lexical analysis to register allocation.
- **Online Shop Platform**  
Comprehensive online shopping platform using React.js for front-end, Spring Boot for back-end, MySQL, MongoDB, Neo4j for data management, Redis for caching, Kafka for messaging, Apache Spark for data processing, Nginx for load balancing, and Docker for containerization.

## AWARDS AND HONORS

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- Full scholarship for Undergraduate studies, **Shanghai Government Scholarship** China, 2020-2025
- Outstanding Graduate, **Shanghai Normal University** China, 2021

## COMMUNITY AND MEMBERSHIPS

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- **OpenHarmony Club, Shanghai Jiao Tong University** 2024 - Present  
*Open Source Contributor* - Participated in monthly meetings and presented team progress
- **International Student Office, Shanghai Jiao Tong University in Armenia** 2021 - 2022  
*International Ambassador* - Promoted the university in homeland and guided students through the application process

## SKILLS

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**Core Competencies:** Linux kernel module programming, eBPF, CI/CD, system debugging, automated testing

**Programming Languages and Tools:** C, C++, Python, Go, Java, Git, Tmux, LaTeX, GPT

**Languages:** Armenian (Native), English (Fluent), Russian (Intermediate), Chinese (Intermediate)

**Professional Attributes:** Adaptability, Resiliency, Teamwork, Public-speaking