Amir Mohammadi

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PROFILE

Software developer skilled at writing well-designed, testable and efficient code. experienced in software development and maintenance, mostly interested in low-level programming.

SKILLS

LANGUAGES
- Good knowledge of Rust, C/C++ and Python

TOOLS
- Familiar with cmake/make, gcc, autotools, gdb, valgrind, git, docker, redis

OTHER
- Solid understanding of network protocols including TCP, HTTP
- Good knowledge of algorithms and data structures
- Basic knowledge of Linux kernel API and Device drivers

EXPERIENCE

ARVANCLOUD (Dec 2020 - Sep 2022) - Systems Engineer

- L3 LoadBalancer
We faced a new problem during developing our new proxy server. Due to its multi-process architecture, we had to share data between different instances of proxy to make stateful modules such as rate-limit work properly. Instead of having a shared memory (because of performance costs) we decided to tune the default behavior of Linux kernel and route the packets to a specific process based on a hash made by packet ip. The result was an **eBPF-based** nginx module which I was working on during this time.

- Edge Workers (FaaS)
Developing a basic service based on **deno**, to provide deploying JavaScript functions at the edge.

- WAF Engine

We rewrote the whole project in **Rust** and did a lot of optimizations in order to gain significant performance improvements. we used cloudflare's wirefilter as a part of the project for better performance and because of that we had to convert thousands of users' rulesets to wirefilter syntax. At this point I worked on a transpiler inspired by rust compiler's design to convert SecLang rules to wirefilter ones. it converts the rule to a MIR (Mid-Level IR) which makes it so easier to do optimizations and then converts the MIR to wirefilter syntax.

Rahnema College (Jun - Aug 2021) - Mentor

Help mentees to improve their technical knowledge specifically in backend development using Java Spring Boot.

Rahnema College (Jun - Aug 2019) - Internship

During my internship, we developed a real-time backend for an auction system. As this was my very first working experience, I was taught the basics of software development and learnt how to develop a well-designed web api as a part of a team.

VOLUNTEER EXPERIENCE

Birjand LUG (Dec 2018 - Now) - Volunteer Experience

Founder of Birjand LUG which is a group of individuals who are interested in linux and other free softwares and meet regularly to discuss about it.

Python Instructor

Computer Scientific Association, University of Birjand

Open-Source Contributor

- Python Software Foundation

Working on **Cpython** project (Official interpreter)

github.com/python/cpython/commits?author=amiremohamadi

- DuckX

C++ library for creating and updating Microsoft Word (.docx) files.

github.com/amiremohamadi/DuckX

AWARDS

ACM ICPC - Ranked 3rd

Intra-University Programming Competition

UUT-CTF - Ranked 12th

Global Security Competition – Held by Urmia University of Technology

EDUCATION

BACHHELOR OF SCIENCE (2017 - 2021):

University of Birjand

Implemented a programming language for elementary Persian-speaking learners for the final project.

HIGH SCHOOL (2014 - 2017):

National Organization for Development of Exceptional Talents (Sampad)

INTERESTS

- Reading
- Attending technical events, conferences and competitions
- Writing technical stuffs on my blog ([Persian](#) / [English](#))