Frankfurt am Main
Germany
Last Update: June 2023

Mehrshad Lotfi Foroushani

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Objective

Highly motivated and dedicated programmer with a strong passion for microservices, event-driven programming, and distributed systems. Committed to continuously expanding knowledge and skills in these domains, driving innovation, and delivering exceptional results.

Skills

Development Tools: Docker, Kubernetes, GitHub Actions, Terraform, Packer, Ansible, Jenkins, Grafana

Cloud Vendors: Amazon Web Services (AWS), Google Cloud Platform (GCP)

Programming Languages: Python, C/C++, Bash, Java

Web/DB Technologies: HTML5, CSS3, PHP, JavaScript, MySQL, Bootstrap

Experience

Founder of **CoachCrew.tech** August 2023 – Present

Software developer at **Deutsche Börse** February 2023 – July 2023

- ***Project:*** *Cloud Stream* Developed and maintained an optimized client to capture messages at the highest rate and conduct stress test to the framework. Improved the existing architecture by introducing static images created via Packer, and helped the team in the migration of the product from Amazon Web Services to Google Cloud Platform.

Research assistant at **Max Planck Insitute for Software Systems** under the supervision of **Prof. Antoine Kaufmann** October 2019 – January 2023

- ***Project:*** *TCP Acceleration as a Service in Virtualized Environments* In this project, I explored the needs for network virtualization in public cloud environment. The goal of the project is to enable modern, CPU efficient network stacks for cloud tenants while enforcing isolation. To this end, I added a netdev driver to Open vSwitch code and used TAS as an efficient packet processing stack for TCP.
- ***Project:*** *Exploring Domain-Specific Architectures for Network Protocol Processing*
  As part of this project, I worked with Xilinx UltraScale+ FPGA-based NICs. I implemented a userspace driver for the PCIe communication using vfio driver.

Research Intern at **SAFARI Group** headed by **Prof. Onur Mutlu** , ETH July - September 2018

- ***Project:*** *Towards Practical, Efficient, and Realizable Hardware-Software Interfaces to Enhance Application Expressivity*
  This work investigates the possibility of designing rich hardware-software interfaces. As part of the project, I added custom instructions to RISC-V, and implemented a custom module on Rocket Chip which can be used by programmers to convey high-level data structures to the underlying hardware.

Undergraduate Research Assistant at **Data Storage, Networks, & Processing** Laboratory headed by **Prof. Hossein Asadi** , Sharif University of Technology September 2016 - April 2018

- ***Project:*** *SSD Reliability Under Adverse Condition* This project focuses on the behavior of Solid-State Disks (SSDs) under power fault. I made an automatic failure testing framework, which consists of hardware and software sections. By applying the testing framework, we tested more than 5 SSDs from different vendors and detected different types of data failures and device failure.

Honors and Awards

Direct doctrate program, and visiting scholar fellowship from Max Planck Institute for Software Systems Spring 2019

Summer internship grant from SAFARI group, ETH Zurich Summer 2018

Ranked 376$^{\text{th}}$ among approximately 200,000 participants of nationwide entrance exam of Irannian universities (Mathematics). **(top 0.17%)** 2013

Education

M.Sc. in Computer Science October 2019 – February 2023
Max Planck Institute for Software Systems, and University of Saarland, Saarbrücken, Germany
Under the supervision of **Prof. Antoine Kaufmann**

B.Sc. in Computer Engineering September 2014 – February 2019
Sharif University of Technology, Tehran, Iran

Language Proficiency

◇ English (fluent) ◇ German (Goethe C1) ◇ Persian (native)