

MOHAMMAD MOEIN SHAFI

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RESEARCH INTEREST

- Computer Network
- Network Security
- Parallel Computing
- Cyber Physical Systems
- Machine Learning
- Operating Systems

EDUCATION

B.S. in Computer Engineering Tehran, IR
University of Tehran, Software Engineering [2017 - Present]
GPA: 16.18/20, Last 2 Year's GPA: 17.90/20

Diploma in Mathematics and Physics Shahreza, Isfahan, IR
Imam Khomeini Highschool [2013 - Present]

RESEARCH EXPERIENCE

Research Assistant at University of Tehran Tehran, IR
Packet handling with XDP, under supervision of [Dr. Nasser Yazdani](#): [Jun 2021 - Present]
I'm currently working on a project about packet handling (capture, inject, manipulate) using new approach in Linux kernel (version > 4.18) named **XDP**. It was also my undergraduate thesis (final project) that has done in a cooperation with [Mahsan Company](#) (mentioned below). Another utility of this approach is for preventing DDOS attacks.

Research Assistant at University of Tehran Tehran, IR
Remote access systems and test automation, under supervision of [Dr. Mehdi Kargahi](#): [Sep 2020 – Mar 2021]
Implementing a remote library that teachers and students could access the hardware (for example boards like raspberry-pi that placed in university library) and running their automated tests on the boards. To do this, I worked with a tool named **LAVA** and **QEMU**.

TEACHING EXPERIENCE

Teaching assistant experience:

- Computer Networks [Spring 2021, Fall 2021]
- Computer Architecture [Fall 2021]
- Computer Architecture Lab [Fall 2021]
- Computer Aided Design [Fall 2020, Fall 2021]
- Introduction to Computing Systems and Programming [Fall 2020, Fall 2021]

WORK EXPERIENCE

Software Engineer Tehran, IR
[Mahsan Company](#) [Jul 2019 - Present]
I'm currently work in the infrastructure team and deal with various issues in this area. My work is mostly about computer networks challenges in Linux operating system. During my career in this company, I mostly worked with **SNMP** protocol but I'm also worked with some useful libraries and tools in networking area like **Netmap**, **XDP**, **Libpcap**, **Zabbix**, etc.

VOLUNTARY WORKS

Supervisor in ACM Summer of Code Tehran, IR
University of Tehran [Summer 2021]
ACM summer of code is an event holds every year for younger students aim to improve their coding skills and challenging their knowledge of software design as a software engineer. My role was '**supervisor**' in **software engineering** field and I managed students and mentors works. The project that we implement was an online game store that you could buy and sell different types of games in it. We used **Java Spring** framework for backend, **React JS** for frontend, **MySQL** for database, **Git** as version control system, and **JWT** for authentication.

SELECTED COURSES

- Computer Networks (20/20)
- Cyber Physical Systems (17.7/20)
- Operating Systems (18.5/20)
- Software Engineering (19/20)
- Internet Engineering (19.3/20)
- Computer Aided Design (18.5/20)
- Object Oriented Design Pattern (19.35/20)
- Compiler Design & Construction (18.5/20)
- Artificial Intelligence (in progress)
- Computer Security (in progress)

SELECTED PROJECTS

- Fast and Reliable Packet Capturing, Manipulating, and Injecting Using XDP, **C + eBPF** [2021]
- Implementation of Software Defined Network (SDN), **Python** [2020]
- 3-Players Bluetooth Based Pong Game (real-time), **Android (Java)** [2021]
- Course Enrollment Website, **Java (Spring framework) + React-JS + MySQL + Docker + Kubernetes** [2021]
- Design and Implementation of neural network on FPGA, **VHDL + Xilinx** [2019]
- Make different change (add shared memory, change scheduling, etc.) into XV6 OS, **C + Assembly** [2020]
- Telegram (social network) bot for like different carpets pictures and collect/process data, **Python** [2021]
- Implementation of a Customized Compiler, **C/Cpp + Flex/Bison** [2020]
- Implementation of Arm processor, **Verilog + Modelsim + Quartus** [2021]
- Implementation of MIPS processor, **Verilog + Modelsim + Quartus** [2019]

SKILLS

- **Software Programming Languages:** C/Cpp, Python, Java, Bash.
- **Hardware Programming Languages:** Verilog, VHDL, Assembly.
- **Operating Systems:** Linux, Windows.
- **Web and Databases:** HTML, CSS, Javascript, React-JS, MySQL, SQLite, Redis,
- **Programming Tools:** Docker, Kubernetes, Git, Mercurial, OpenMP, SIMD, Intel Parallel Studio, Flex/Bison, CMake, Valgrind.
- **Network Tools:** Netmap, XDP, Zabbix, Net-SNMP.
- **Simulation/Emulation Tools:** QEMU, Proteus, Modelsim, Quartus, Xilinx, LAVA (Linaro Automated Validation Architecture).
- **Software Engineering:** Object Oriented Design Patterns, Unit Testing, Project Management Methods.
- **Other:** Passionate, Creative, Team-oriented, Hard-working (with a history of **352 working hours in a month** at Mahsan company), Self-motivated, have a high Self-confidence and always eager to learn new things. Would enjoy working in a friendly team.

LANGUAGES

- Persian (native)
- English (fluent)
- Arabic (familiar)

HOBBIES & INTERESTS

- Sports (volleyball & football)
- Board Games & Video Games

REFERENCES

Available upon request.