

Shervin Khastoo

Software Engineer

Education

- 2018–2020 **Master of Science – Computer Science**, *University of Waterloo*, Waterloo, Ontario, Canada, **Area:** Systems and Networks, **GPA:** 91.5/100.
Thesis: NeuRA: Using Neural Networks to Improve WiFi Rate Adaptation.
Supervisor: Prof. Tim Brecht
- 2014–2018 **Bachelor of Science – Computer Engineering**, *Sharif University of Technology*, Tehran, Iran, Major: Software, GPA: 17.48/20.

Experience

- 2018–2018 **Senior Software Engineer**, *Cafe Bazaar*, Tehran, Iran.
- Full-Stack (Backend/Frontend) Developer, Container/Server Maintainer at Divar Classified Ads
 - Product Owner of Web Chat Application in Divar
- 2015–2018 **Software Engineer**, *Cafe Bazaar*, Tehran, Iran.
- Backend Developer at Adad (Mobile Advertising Network) using Python/Django (50 million+ daily ad impressions)
 - Designer and Developer of the Chat Subsystem in Divar Classified Ads (10 million+ users):
 - Backend Development using Elixir/Phoenix Framework
 - Distributed Database Design using Cassandra
 - Frontend Development of a Modern Web Chat Application from Scratch using React.js
 - Server/Database Maintainer of Multiple Products

Skills

- Programming** High-Intermediate: Python, C/C++.
Intermediate: Javascript (ES6, Node.js), Go, Elixir, Java, Bash.
Django, Phoenix, and Various Javascript Frameworks.
Functional/Asynchronous/Reactive/Object-Oriented Programming.
- Web** Modern Web Application Development and Design, REST API, Browser API, HTML, CSS, Javascript (ES6), React, Redux and UI frameworks.
- Databases** Relational Databases (MySQL, PostgreSQL), Redis, Memcached, Cassandra
- SysAdmin** Intermediate experience in Linux, Filesystems (LVM, Encryption, RAID), Networking (iproute2), iptables, Docker, Kubernetes, Mail Server, DNS Server, Reverse Proxies, Database Management, Backup, VPN Configuration, and Server Monitoring.
- AI/ML** Basic skills in Neural Networks, Long Short-Term Memory (LSTM), Keras, TensorFlow.
- Algorithms** Good at understanding various data structures and designing optimal algorithms.
- SE** Familiar with Agile/Scrum. Experienced in Git version control system.
- Others** Self-Learning (especially in Computer Science), Debugging, Microcontroller and FPGA.

Honors and Awards

- 2013 Silver Medal in 23rd Iran National Olympiad in Informatics (INOI).
- 2012 Bronze Medal in 22nd Iran National Olympiad in Informatics (INOI).

Projects

- 2020 **WiFi Rate Adaptation using Neural Network Estimations.**
Master's thesis aimed at improving WiFi rate adaptation algorithms by reducing the number of bitrates being sampled and predicting the expected throughput of all bitrates using neural networks.
- 2019 **WiFi Traffic Classification.**
A course project aimed at using LSTM models to classify the traffic of WiFi clients using coarse-grained information (throughput, bitrate, signal strength, etc.) over time.
- 2018 **Analysing the Depth of Software Bugs.**
BSc. Project aimed at finding the distribution of depth of software bugs by performing a large-scale static code analysis over tens of popular GitHub software repositories. The depth is measured as the shortest distance from the bug to the entry points of the software in the control flow graph.
- 2017 **Home Router.**
A split-tunnel VPN router using Raspberry Pi 3 with a Node.js control software and a Javascript web interface. Monitoring and controls implemented using a touchscreen display running chromium.