

Alireza Shateri

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Research Interests

- Parallel Computing, Networking, Big Data, Databases, Hardware Acceleration
- My primary research focus is on accelerating database queries by leveraging modern accelerators, such as FPGAs and GPUs, to offload computational tasks from the CPU. This approach aims to maximize performance and optimize the utilization of available computing resources.

Education

PhD, Computer Science

- [University of Toronto](#)

Supervisor - Prof. Qizhen Zhang

2023 - Present

Toronto, Canada

Bachelor of Science, Computer Engineering

- [Sharif University of Technology](#)

GPA - 18.58 (3.90/4)

2018 - 2023

Tehran, Iran

High School Diploma, Mathematics and Physics

- [National Organization for Development of Exceptional Talents](#)

GPA - 20/20 (4/4)

2011 - 2018

Mazandaran, Iran

Industrial Experiences

1. [Software Engineer at Ubaar](#)

Sep 2019 - Jun 2020

- Ubaar is the biggest online cargo carrying system in Iran with thousands of trucks and customers.
- As software engineer, I managed to develop the core functionality and business logic required by the Ubaar platform, such as implementing new features for drivers and customers.

2. [DevOps Engineer at Tapsell](#)

Oct 2020 - Aug 2021

- Tapsell is the Iran biggest online advertising service.
- In a team of 8 people, we maintained, monitored, developed and deployed infrastructure services needed by all other technical teams. The total size of technical team exceeded 100 people. We used a vast domain of tools and technologies for our purposes like Linux, Docker, Docker Swarm, Kubernetes, Nginx, HAProxy, VPNs, VCSA, Ansible, databases like Postgres, Mysql, Redis, Cassandra, Mongo etc. One of the toughest challenges we had in Tapsell was the volume of requests! At the peak of our load, we handled more than 500,000 requests per second. Also, we reached a brilliant response time with an average of 50-100 ms.

3. [DataOps Engineer at Digikala](#)

Aug 2021 - Apr 2022

- DigiKala is the Iran largest retail company with thousands of employees and several warehouses around the country. Actually it's Iranian amazon alternative. The technical team of DigiKala consisted about more than 300 engineers.
- In the DigiKala BigData team, we had only one objective: use the vast amount of user- and event-generated data to decrease costs or increase profit. Under the supervision of Dr. Navid Shahdi, BigData Team Leader, we started the BigData Platform project. My colleagues and I, as DataOps Engineers, were responsible for deploying the infrastructure needed for the data platform. Some of the most important ones were Kubernetes for our container base jobs and APIs orchestration, Hadoop HDFS for the distributed file system, Apache Spark as a distributed large-scale data analytics engine, and Data Breaks DeltaLake as our storage framework for writing down data on HDFS.

4. [DevOps Team Lead at Alibaba](#)

Apr 2022 - Aug 2023

- Alibaba is the biggest booking.com alternative! in Iran and has a large mature technical team with a size of at least 100 engineers.
- My first objective at Alibaba was to migrate legacy CI/CD pipelines to the GitOps pattern and set up a fully customized monitoring stack. I also upgraded the Kubernetes cluster version from 1.17 to 1.23. Our team aimed to maintain the cluster's status, and developed new and more agile solutions for the development team.

Main Projects

- 1. Backup Organizer** 2020-2021
(Industry) *Tech*
 - This project help companies fully automate their backup processes like backup data, validate the backed-up data, restore data and house keeping the storage, code consists of multi microservices with their own responsibility and all the code is fully async.
 - Languages/Tools: Python, FastAPI, RabbitMQ, Docker, Postgresql
- 2. Pet Tracker(Embedded)** Fall 2021
(Prof. Mohsen Ansari) *Embedded Systems*
 - Implementing a mvp of pet tracking system using arduino as an embedded device attached to pet body with gps and gsm modules for contacting the main server. Some information like pet speed, location and distance from a specific point could be monitored by system. Also clients could get alerts when their pet got far away from that specific point.
 - Languages/Tools: Python, Django, Postgresql, Arduino, GSM, GPS
- 3. C-Minus Compiler** Fall 2020
(Prof. Reza Ghasem Sani) *Compiler Design*
 - Compiler for C-Minus language that generates pseudo machine codes.
 - Languages/Tools: Python
- 4. URL Shortener** Summer 2020
Industry *Tech*
 - A minimal url shortener service with some analytical features for clients.
 - Languages/Tools: Python, Django, Postgresql, Celery, RabbitMQ
- 5. Web Crawler** Summer 2021
Industry *Tech*
 - A Crawler system for crawling one of Iran's largest online store for fetching all car ads. Job for crawling runs on a periodic basis that can be configured too.
 - Languages/Tools: Python, Postgresql, Celery, RabbitMQ, Docker
- 6. AI Event Platform** 2020-2021
Industry *Tech*
 - Contributed heavily on the platform needed by the largest AI based student events in Iran specially on infrastructure and core backend site.
 - Languages/Tools: Python, Docker, Docker Swarm, Postgres, Celery, RabbitMQ, Kafka, Redis, Ansible

Skills

- Programming Languages: Python, C, OpenCL, C++,Java, Go, Verilog
- Databases: MySQL, PostgreSQL, SQL-Server, MongoDB, Redis, etcd, Elasticsearch, Druid
- Operating Systems: Linux
- Tools: Kubernetes, Docker, Docker Swarm, Ansible, Nginx, HAProxy, Sentry, HDFS, Spark, Kafka, Jupyterhub, ArgoCD, FluentD, FluentBit, Kibana, Prometheus, Grafana

Teaching Experiences

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| Computer Networks Course Preparation | Summer 2024 |
| <i>Teaching Assistant, St.George Campus</i> | |

Operating Systems (CSC369) <i>Teaching Assistant, St. George Campus</i>	Winter 2024
Programming on Web (CSC309) <i>Teaching Assistant, St. George Campus</i>	Winter 2024
Principles of Computer Networks (CSC457) <i>Teaching Assistant, St. George Campus</i>	Fall 2023
Operating Systems <i>Teaching Assistant, Sharif University of Technology</i>	Fall 2022
Languages and Machines Theory(Automata) <i>Teaching Assistant, Sharif University of Technology</i>	Fall 2022
Computer Networks <i>Teaching Assistant, Sharif University of Technology</i>	Winter 2022
Compiler Design <i>Teaching Assistant, Sharif University of Technology</i>	Winter 2021
Advanced Programming <i>Teaching Assistant, Sharif University of Technology</i>	Winter 2020
Volunteering and Services	

Technical Lead , Sharif AI Challenge 2021	Dec 2020 – May 2021
o Leadership of a group of more than 30 people organized into multiple specialized teams preparing AI Challenge platform and competition.	
Technical Lead , Gamein 2020	Jan 2020 - Dec 2020
o Leadership of a technical teams developing the website of Gamein event hosted by IE faculty.	
Technical Member , Sharif AI Challenge 2020	Nov 2019 - Apr 2020
o Develop and maintain backend and infrastructure needed for AI Challenge competition.	
Technical Member , DataDays 2020	Nov 2019 - Apr 2020
o Develop and maintain backend and infrastructure needed for DataDays - a data science related event - competition.	

Honors and Awards

First Rank in Country: Ranked first in national university entrance exam among 150,000 participants.	2018
National Olympiad: Accepted in first stage mathematics olympiad at high school.	2016
National Fellowship: Fellowship in Iran's National Elites Foundation. (INEF)	2018-Present
NODET student: Admitted to National Organization for Development of Exceptional Talents School.	2011-2018