

# Mohammad Amin Baqershahi

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[Stackoverflow](#) | [Website](#)

## Education

- B.Sc., in Computer Engineering, University of Tehran** [✉](#) Sep 2018 – present  
Tehran, Iran
- **GPA: 18.32/20 (3.86/4)**
  - Ranked 6th among 99 Computer Engineering students
  - Related courses: Algorithms Design (19.4/20), Internet Engineering (19.3/20), Computer Networks (18.8/20), Introduction to Distributed Computing (19.5/20), Parallel Computing (18.7/20), Software Engineering (18.4/20), Advanced Programming (18.8/20), Artificial Intelligence (19.5/20)
- Diploma, Mathematics and Physics, Mofid Highschool** Sep 2017 – Jun 2018  
Tehran, Iran
- **GPA: 19.92/20**

## Research Interests

- Distributed Systems
- Computer Networks
- Cloud Computing
- Parallel Computing
- Algorithms
- Software Engineering

## Research Experience

- Customized Heterogeneity Aware Scheduler for Kubernetes** Jun 2022 – present  
Under the Supervision of Prof. Adel Nadjaran Toosi [✉](#)
- Multiple Mobile Sinks in Wireless Sensor Networks** Feb 2022 – present  
Under the Supervision of Prof. Naser Yazdani [✉](#)
- This research aims to deploy a multiple mobile sinks approach in WSNs to overcome the sink hole problem that happens while using static sinks or base stations. In addition, disjoint networks are considered in this research.

## Work Experience

- Software Engineer, Snapp! Company** [✉](#) Sep 2021 – present  
Snapp is the pioneer provider of ride-hailing mobile solutions in Iran.  
Roles:
- Contribution to location-based services
  - Contribution to the development of a service for calculating the actual driven distance of rides.
  - Study and development of Map Matching, Routing, and Geofencing algorithms
- Tools and Technologies: Go, Docker, Kubernetes, Cassandra, MongoDB, gRPC, OKD, Microservice Architecture, OSM, Geojson, Shapely, Linux, Bash
- Software Engineer, Software Engineer Intern, Mahsan Company** [✉](#) Jun 2020 – Sep 2021  
Mahsan is one of the most important and active companies in the fields of Modern Communication Systems, Computer Networks and Network Security.  
Roles:
- Research on DPI (Deep Packet Inspection)
  - Research and development of SSL/TLS protocols inspection
  - Research on TLS 1.3
- Tools and Technologies: C, C++, Bash, OpenSSL, Botan, Wireshark, Jenkins.
- C and C++ Programming Language Private Tutor** Sep 2019 – May 2020  
Tehran, Iran

## Volunteer Experience

### Member of the University of Tehran ACM Student Chapter

#### Supervisor of ACM Summer Camp 2021 Web Development Course

- Roles:
- Evaluation and selection of applicants and mentors
  - Design of the main project (with Spring framework for the backend and React for the frontend)
  - Supervision of project development and technical guidance

## Member of ACM Summer Camp 2021 Coordination Team

Roles:

- Organization and arrangement of ACM Summer Camp 2021 including courses on Web Development, Blockchain, AI, Algorithm, and Multimedia.

## Honors and Awards

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**Recognized as Exceptional Talent and Offered Direct Admission to Master Program at the University of Tehran, *University of Tehran*** Nov 2021

**Ranked 6th among 99 Computer Engineering students, *University of Tehran*** May 2021

**Ranked 171th (regional) in Mathematics and Physics Konkour (Iran's National University Entrance Exam) among more than 144000 candidates** Jul 2018

## Teaching Assistantship

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**Computer Networks** (Instructor: Prof. Naser Yazdani, Semesters: Spring 2022),  
**Internet Engineering** (Instructor: Dr. Ehsan Khamespanah, Semesters: Spring 2022),  
**Operating Systems** (Instructor: Dr. Mehdi Kargahi, Semesters: Fall 2021, Spring 2022),  
**Computer Architecture** (Instructor: Dr. Saeed Safari, Semesters: Spring 2021, Fall 2021),  
**Computer Architecture Lab** (Instructor: Dr. Saeed Safari, Semesters: Fall 2021),  
**Compiler and Programming Languages Design** (Instructor: Dr. Fatemeh Ghassemi, Semesters: Fall 2020),  
**Data Structures and Algorithms** (Instructor: Dr. Hesham Faili, Semesters: Fall 2020, Spring 2021)

## Notable Projects

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### Khatkesh, Driver Actual Driven Distance Calculator

- For Snapp! Company
- Tools: Go, Cassandra, Kubernetes, Prometheus
- Description: In this project, GPS probes of a driver get map matched using HMM algorithms. After that, the actual distance that the car drove between specified origin and destination is calculated.

### DLP, Data Leakage Prevention

- For Mahsan Company
- Tools: c++, c
- Description: I participated in developing deep packet inspection tools which extract required data from SSL/TLS packets to be used in preventing data leakages.

### Bolbolestan Web Application

- For Internet Engineering Course, University of Tehran
- Tools: Java, React.js, MySQL, JWT, Kubernetes, Docker
- Description: Bolbolestan is a course selection web application that students can use to select their intended courses and also see their schedules. I used Java Spring framework for the backend, React.js for the frontend, Docker and Kubernetes, and Gitlab CI/CD for deployment.

### XV6 Operating Systems Modification

- For Operating Systems Course, University of Tehran
- Description: I Modified xv6 Operating System by adding features such as new keyboard shortcuts for the console, new system calls, CPU scheduling, and synchronization using barriers and reentrant mutex locks.

### ARM Processor

- For Computer Architecture Lab, University of Tehran
- Tools: Verilog, Modelsim
- Description: A 32-bit ARM Processor With Hazard Detection, Forwarding Unit, SRAM & A 2-Way Set-Associative Cache.

### Sophia Compiler

- For Compiler and Programming Languages Course, University of Tehran
- Description: A complete compiler for an object-oriented programming language names Sophia.

## Languages

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**Persian** (Native) | **English** (TOEFL iBT exam will be taken on October 19th, 2022)

## Skills

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**Programming Languages** (Go, Python, C/C++, Java, SQL, Javascript, HTML, CSS, Verilog HDL),  
**Tools and Technologies** (Docker, Kubernetes, OKD, gRPC, Git, Prometheus, Grafana, Jaeger, Figma),  
**Frameworks and Libraries** (Spring, JQuery, React.js, OpenCV, OpenSSL, Botan, GnuTLS, Antlr4, Modelsim),  
**Databases** (Cassandra, MySQL, PostgreSQL, MongoDB, Neo4j, Redis), **Operating Systems** (Linux, Windows)