

# SHAYAN HOSSEINI

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## EDUCATION

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**University of British Columbia**, Vancouver, BC, Canada 2021 - present  
M.Sc. in Computer Science  
Advisor: Prof. Ivan Beschastnikh

**University of Tehran**, Tehran, Iran 2015 - 2020  
B.Sc. in Computer Engineering, GPA: 17.38/20  
Thesis: *Verification of Microservices*, Advisor: Prof. Hossein Hojjat

## RESEARCH EXPERIENCE

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**Research Assistant at the University of British Columbia**, Vancouver, BC, Canada 2021 - present  
*Under supervision of Prof. I. Beschastnikh*  
Member of the computer systems group. Working on the PGo project, to compile verifiable models of the distributed system into implementations in Go.

**Research Intern at Max Planck Institute for Informatics**, Saarbrücken, Germany Summer 2019  
*Under supervision of Prof. C. Lenzen*  
Member of algorithms and complexity group. I was working on the fault-tolerant routing problem with strong fault types.

## PROFESSIONAL EXPERIENCE

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**Founder of Peydaa** 2021 - present  
Peydaa is a non-profit platform to make transparency in the Iranian job market. It is a website that people can anonymously share their salary and experience of working in companies with others. I started Peydaa myself, working as both product manager and developer, and over time, four more people joined the team remotely. Until now, more than 600 users have shared their salaries and experiences on Peydaa.

**Software Engineering Manager at Cafebazaar**, Tehran, Iran 2020  
Member of Sotoon, providing cloud services to the other companies. I was leading a team of 10 people aiming to integrate all provided services into a unified product. Besides, I was a member of the company's hiring committee.

**Technical Lead and Product Manager at Cafebazaar**, Tehran, Iran 2017 - 2019  
Member of the infrastructure team. Aiming to provide high available and scalable services to other technical teams. Leading a team of 8 people inside this group. I was one of the co-founders of Cafebazaar Cloud, which is a subsidiary of Cafebazaar that provides public cloud services to the other companies (rebranded as Sotoon later).

- Designed and developed a distributed object storage service using Ceph, named Kise. It serves a large amount of data and responds to more than hundreds of requests per second in production.
- Designed and developed a new architecture for our Content Delivery Network to use cache servers and IP Anycast network.
- Designed and developed a new software architecture for the CDN nodes to be dynamically configurable and multi-tenant.
- As a Product Manager, responsible for determining the team's vision, OKRs, stories, and tasks.
- As a Tech Lead, responsible for deciding on technical problems, developing and maintaining these services.

**Software Engineer at Cafebazaar**, Tehran, Iran 2015 - 2017  
Cafebazaar is the most popular Android application store in Iran, with more than 35 million users.

- Member of the app acquisition team, working on application download and payment system.
- System owner of CDN and parts of Cafebazaar back-end. Responsible for code reviews and the systems to be available, scalable and maintainable.

## TEACHING EXPERIENCE

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**Teaching Assistant**  
University of British Columbia  
• CPSC 416: Distributed Systems, I. Beschastnikh Spring 2021

University of Tehran

- **Head TA**, Design and Analysis of Algorithms, H. Mahini
- Engineering Probability and Statistics, B. Bahrak

2018 - 2019  
Fall 2018, 2019

### Informatics Olympiad and ICPC related

Teaching topics in computer science including Algorithms, Data Structures, and Graph Theory to undergraduate students preparing for ICPC as well as high school students preparing for Informatics Olympiad.

- University of Tehran 2017
- Iranian National Olympiad in Informatics Summer Camp 2015
- Allameh Helli High School 2015

## AWARDS AND HONORS

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### ICPC, International Collegiate Programming Contest

The International Collegiate Programming Contest is an algorithmic programming contest for college students.

- **56<sup>th</sup> team** in the 41<sup>th</sup> ACM ICPC World Finals, South Dakota, USA 2017
- **3<sup>rd</sup> team** in ICPC Pacific Northwest Regional Contest 2021
- **3<sup>rd</sup>, 2<sup>nd</sup>, 2<sup>nd</sup>, 9<sup>th</sup> team** in Regional Contests of ACM ICPC West Asia Region, Tehran site, respectively in 2018, 2017, 2016 and 2015.

**Silver Medal** in the 24<sup>th</sup> Iranian National Olympiad in Informatics 2014

Iranian National Olympiad in Informatics is an annual computer-programming competition for high school students. Medals awarded to 40 people after a year of competition between over 10000 students from all the country.

## NOTABLE OPEN SOURCE PROJECTS

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**PGo** 2021 - present  
PGo compiles verifiable formal specifications into Go implementations. I worked on supporting fault-tolerant models and distributed state in PGo.

**Tracing library** 2021  
A light-weight library for manual distributed system tracing. Has been used for precise automatic grading in CPSC 416 course.

**gRPC Go Contracts** 2020  
A design by contract library for the gRPC Go framework; To verify the communication of microservices by writing contracts for their RPCs.

**CAPTCHA Farsi** 2011-2012  
Generating CAPTCHA in Persian by using image processing and calligraphy methods. Can be used in Persian websites. Awarded as Best Project in 8th NODET Young Researchers Festival.

## SKILLS AND QUALITIES

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**Programming Languages and Tools:** Expert in Go, Python, Bash-Scripting, Git. Working knowledge in C/C++, SQL, Java, Lua, Javascript, Verilog,  $\LaTeX$ .

**Software Engineering:** Familiar with different object-oriented design patterns, software development methodologies such as Agile and DevOps and, functional programming.

**Web Application Development:** Comfortable with Django, Flask, CSS3, HTML5 and ReactJS.

**Site Reliability Engineering:** Managed scalability and maintainability challenges in several web applications having thousands of requests per second. Expert Linux user and experienced in system administration. Experience with Ceph storage platform, Kubernetes, Docker, NGINX, Networks.

**Theoretical Background:** Expert in design of algorithms, data structures, and discrete mathematical fields such as graph theory and combinatorics suggested by awards in ACM ICPC and Olympiad in Informatics.

**Languages:** English (Full professional proficiency), Persian (Native).

**Other:** Creative, self-motivated, eager to learn new things. Communicative and collaborative with the ability to work both independently and in a team.