Ehsan Hajyasini

Resume

Education

2022-2027	**PhD in Computer Science**,	**University of California San Diego**.
	Systems and Networks, Non Volatile Systems Lab	
2013–2018	**BSc in Software Engineering**,	**University of Tehran, Iran**.

Work Experience

2023 - 2027   **Graduate Research Assistant**,   **University of California San Diego**.

Advised by **Steven Swanson**

Accelerating RPCs in Data Centers via CXL Shared Memory

2017-2022   **Principal Software Engineer & Head of R&D**,   **Radin Bourse**.

Spearheaded the Architectural Design and Implementation of a Cutting-Edge Trading Platform for Iran's National Stock Exchange, Addressing Key Factors Including **Performance**, **Microsecond-Level Latency**, **Scalability**, **High Availability**, **Observability**

- Engineered an Ultra-Low Latency, High-Performance Matching Engine Using **Java**
- Leveraged **Spring**, **Hibernate**, **Dependency Injection**, **JUnit**, and **SpringBoot**
- Researched and Implemented System Availability with **Raft** and **Chain Replication**
- Formulated a **Replicated State Machine** to Ensure System Availability
- Established Benchmarks and **Microbenchmarks** to Assess Platform Performance
- Optimized Message-Passing Mechanisms Utilizing **Kafka** and Redpanda
- Orchestrated a **Zero Trust**-Based Network Infrastructure
- Automated Infrastructure Management Using **Ansible**, **Docker**, **Teleport**, **Nomad**
- Instituted Best Practices to Elevate **Software Quality** Across the Organization
- Contributed to Development of **Competency Matrix** to Facilitate Career Advancements
- Mentored and Onboarded New Hires and Interns

2018 (winter)   **Software Engineer**,   **Digital Product School, Germany**.

Helped Ideate an App for Last-Mile Mobility & Built a Bike-Sharing Prototype App

2016   **Software Engineering Intern**,   **Cafebazaar**.

Implemented a CDN Cache Using **Nginx**

- Realized 99% Cache Hit Rate and Reduced Storage Needs by 94%

2015   **Software Engineer**,   **ACM Student Chapter, University of Tehran**.

Set up a **Live Video Streaming** Solution with **Nginx** for the University of Tehran

Technical skills

Technologies	Java, C++, C, Python, Go Lang
Software	Linux, Kafka, Ansible, Spring, PostgreSQL, Nginx, Java Microbenchmark Harness

| Others | DDD, DevOps, Event Sourcing, Micro Services, Infrastructure as Code |

Areas of Interest

Systems and Networks
 Storage and Memory Systems, Distributed Systems, Operating Systems
Software Engineering

Notable Personal Projects

2016-2017 **Scalable Online Election Platform for University of Tehran**, http://vote.ut.ac.ir.
Engineered a robust election system serving over 15,000 users for university-wide elections.

2014 **RANA: Mobile Augmented Reality Framework**.
Designed and implemented an augmented reality solution optimized for mobile devices.

2011 **TripleA: 3D Soccer Simulation in RoboCup**.
Secured first place in Khwarizmi Technical Challenges.

2010 **Mixed Reality Soccer in RoboCup IranOpen**.
A member of the TripleA Simulation Team in the RoboCup IranOpen Mixed Reality category.

Selected Academic Projects

2018 **Enhancement of Graph Node Classification via Self-Attention in Deep Learning**,
Bachelor's Thesis.

2017 **Object-Oriented Design for Academic Management System**, Capstone Project in
Object-Oriented Design, Domain-Driven Design.

2015 **Linux Kernel Scheduler**, Final Project in Operating Systems Course.
Implemented a user-level and task-level round-robin scheduling policy in the Linux kernel.

2015 **MOL Language Compiler**, Final Project in Compiler Design Course.
Developed a MOL language compiler supporting inheritance and function overriding.

2016 **Stereo Vision Depth Detection via Parallel Programming**, Utilized SIMD, OpenMP,
CUDA for optimization.

2016 **Web-Based Stock Market Simulator**, Course Project in Internet Engineering, Java EE.

2016 **Formal Methods in Software Engineering**, Utilized Alloy, Rebeca, SPIN, SMV.

2014 **Geographical Path Finder**, Final Project in Data Structures & Algorithms.
Built an efficient map explorer using quadtrees and pathfinding algorithms.

Teaching Experience

2016-2018 **Chief Teaching Assistant**, Advanced Programming.
2017 **Teaching Assistant**, Internet Engineering.
2017 **Teaching Assistant**, Formal Methods in Software Engineering.
2016 **Teaching Assistant**, Design and Implementation of Compilers.

Honors and Awards

2016 **ACM Student Chapter Excellence Award**, *A member of ACM team*.

2014 **Faculty of Engineering(FOE) Prize**, ranked 3rd in computer architecture.

2013 **National Universities Entrance Examination**, *top 0.1% of 300,000 contestants*.