

Ehsan Hajyasini

📍 San Diego, CA ✉ ehsanhajyasini74@gmail.com ☎ (858) 257-8282 🌐 esihaj.github.io
📁 ehsan-hajyasini

Education

University of California San Diego 2022 – May 2027
PhD in Computer Science in Systems and Networks
◦ Advisor: Dr. Steven Swanson

University of Tehran 2013 – 2018
BSc in Software Engineering

Publications

Telepathic Datacenters: Fast RPCs using Shared CXL Memory 2024
Suyash Mahar, *Ehsan Hajyasini*, Seungjin Lee, Zifeng Zhang, Mingyao Shen, Steven Swanson
[10.48550/arxiv.2408.11325](https://arxiv.org/abs/10.48550/arxiv.2408.11325)

Experience

Research Intern, CXL for AI Systems San Jose, CA
SK Hynix America July 2025 – Sept 2025
◦ Integrated the RPC Over CXL with SK Hynix Niagara AI Centric Memory Platform

Graduate Research Assistant San Diego, CA
University of California San Diego 2022 – present
◦ Designed a framework for efficient low-latency communication leveraging CXL memory.
◦ Specialized in kernel development, focusing on memory and file system subsystems.
◦ Specialized in CXL technologies and high-performance RPC frameworks.
◦ Reduced kernel memory sealing latency from 120 μ s to 0.5 μ s.
◦ Improved sandboxing latency from 26 μ s to 0.6 μ s.
◦ Architected a distributed orchestration system leveraging etcd for robust coordination.

Lead Engineer Tehran, Iran
Radin Bourse 2017 – 2022
◦ Led the design and development of a trading platform for the national stock exchange.
◦ **High Performance:** Achieved order matching latency of **2 μ s** and end-to-end transaction latency of **40 μ s** through optimized algorithms and system design.
◦ **Message-Passing:** Reduced latency from **2 ms** to **30 μ s** by optimizing communication.
◦ **Performance Benchmarks:** Devised **50 microbenchmarks** to evaluate and reduce critical paths latency from **200 μ s** to **2 μ s**.
◦ **System Availability:** Integrated **Raft** and **Chain Replication** to ensure fault tolerance.
◦ **Infrastructure Automation:** Engineered workflows for **20 nodes** using **Ansible**, cutting stack setup time to under **10 minutes**.
◦ **Network Security:** Orchestrated a **Zero Trust** infrastructure to fortify system security.
◦ **Software Quality:** Established best practices to reduce production issues and improve maintainability.
◦ **Competency Matrix:** Created a framework to assess skills and support career growth.
◦ **Team Mentorship:** Onboarded and trained **10 new hires** to deliver complex tasks within **2 months**.

Software Engineer Germany
Digital Product School, Germany 2018 – 2018
◦ Conceptualized and prototyped an innovative bike-sharing app for last-mile mobility.

Cafebazaar

- Deployed and fine-tuned a CDN cache using **Nginx**.
- Realized 99% cache hit rate and reduced storage needs by 94%.

Technical Skills

Languages: C++, C, Java, Python, Go Lang**Frameworks:** Kafka, PostgreSQL, Spring, Spring Boot, Hibernate, JUnit, ArchUnit, Java Microbenchmark Harness, Hazelcast**Tools and Platforms:** Linux Kernel, Docker, Nginx, Ansible, HashiCorp Nomad, Vault, Teleport, CI/CD**Practices:** DDD, DevOps, Event Sourcing, Micro Services, Infrastructure as Code, Dependency Injection**Projects**

Scalable Online Election Platform for University of Tehran

2016-2017

- Engineered a robust election system serving over 15,000 users for university-wide elections.

RANA: Mobile Augmented Reality Framework

2014

- Designed and implemented an augmented reality solution optimized for mobile devices.

TripleA: 3D Soccer Simulation in RoboCup

2011

- Secured first place in Khwarizmi Technical Challenges.

Mixed Reality Soccer in RoboCup IranOpen

2010

- Competed as a member of TripleA Simulation Team in RoboCup IranOpen Mixed Reality.

Academic Projects

Congestion Control Analysis

2024

- UCSD CSE222A Computer Communication Networks Project

Raft implementation in Go

2023

- UCSD CSE224 Graduate Networked Systems Project

Enhancement of Graph Node Classification via Self-Attention

2018

- Bachelor's Thesis

Object-Oriented Design for Academic Management System

2017

- Capstone Project in Object-Oriented Design

Linux Kernel Scheduler

2015

- Implemented a user-level and task-level round-robin scheduling policy in the Linux kernel.

MOL Language Compiler

2015

- Developed a MOL language compiler supporting inheritance and function overriding.

Stereo Vision Depth Detection via Parallel Programming

2016

- Utilized SIMD, OpenMP, CUDA for optimization.

Teaching Experience

Chief Teaching Assistant: Advanced Programming

2016 – 2018

Teaching Assistant: Internet Engineering

2017

Teaching Assistant: Formal Methods in Software Engineering

2017

Teaching Assistant: Design and Implementation of Compilers

2016