

# Iman Gholami

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Ph.D. Candidate in Computer Science at the University of Maryland and 2017 **IOI Silver Medalist** with expertise in algorithms, competitive programming, AI, distributed systems, and large-scale data engineering. Skilled in **C++**, **Python**, system design, and big data technologies (Hadoop, Spark, Kafka). Committed, passionate **problem-solver** with strong communication and **leadership** skills, demonstrated through roles as Team Lead at Balad (10M+ MAUs) and Software Engineering Intern at Axal (YC) and Bazaar (50M+ MAUs).

## SKILLS

**Core Competencies:** Algorithms, Data Structures, Full Stack Development, Machine Learning, Software Architecture, Problem Solving, Communication, Leadership

**Languages:** Python (200K+ LOC), C++ (200K+ LOC), TypeScript, Go, Java

**Frameworks,** React, FastAPI, Django

**Cloud:** Docker, k8s, AWS

**DB & Tools:** PostgreSQL, MongoDB, Redis, Git, CI/CD

## EDUCATION

### University of Maryland, College Park

PhD in Computer Science  
Dec 2026

### Sharif University

BSc in Computer Engineering  
May 2022

## AWARDS & ACHIEVEMENTS

**Silver Medal at IOI 2017**  
66<sup>th</sup> Worldwide

**2<sup>nd</sup> Place at ICPC Regional**  
For three years

**Gold Metal at INOI**  
7<sup>th</sup> Nationwide

**Ranked Competitive Programmer**  
**Codeforces: Master (2300+)**

## TOP PUBLICATIONS

Breaking a Long-Standing Barrier:  $2-\epsilon$  Approximation for Steiner Forest (**FOCS'25**)  
2-Approximation for Prize-Collecting Steiner Forest (**JACM'25**, **SODA'24**)

Prize-Collecting Forest with Submodular Penalties: Improved Approximation (**IPCO'25**)

Prize-Collecting Steiner Tree: A 1.79 Approximation (**STOC'24**)

## EXPERIENCE

### Software Engineer Intern

May 2025 – Aug 2025

Axal (YC W25)

San Francisco, CA

- As a short term **founding engineer**, built and delivered an **LLM powered** code-block search with static analysis that secured a modernization contract with REI Systems.

### Software Engineer

Nov 2018 – Dec 2022

Balad (30M+ Installs)

Tehran, Iran

- Set up ClickHouse, Airflow, and Spark batch system and **overhauled data processes**, improving latency, query speed, reliability, and data anonymity while **cutting compute costs** by 30% and storage by 75%.
- Modernized** the navigation system by migrating it from Java to Kotlin, **decreasing latency** by 30% and significantly improving code maintainability and developer productivity.
- Architected and deployed a **real-time traffic prediction system**, improving ETA accuracy over ATA by 35%.

### Software Engineer Intern

Jul 2018 – Oct 2018

Bazaar (100M+ Installs)

Tehran, Iran

- Engineered a secure, reliable internal wallet, facilitating seamless in-app transactions **for over 55M+ users**.
- Identified and fixed a **critical bug** that froze \$20,000 in user funds, refunding 100 users.

## RESEARCH

### Research Assistant

Jan 2023 – May 2025

UMD Theory Lab

College Park, MD

- Designed algorithms for Steiner Forest variants, with direct application to chip manufacturing for faster performance, smaller layouts, and lower energy use.

## SELECTED PROJECTS

### Intelligent Metadata Discovery

Metachamber

- Built a lightweight metadata discovery platform that accelerated enterprise data governance by automating **data catalog** generation through AI-powered schema extraction and streamlined deployment.

### AI Grading Assistant

Grass

- Developed an **AI-powered** academic grading assistant that reduced TA grading effort by 90% through rubric-based scoring automation, real-time notifications, and seamless integration with existing LMS workflows.