

# Seyed Ali Akhavani

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**About Me:** Ph.D. candidate at Northeastern University specializing in Web Security, Privacy, and Vulnerability Analysis. Experienced in bypassing Web Application Firewalls through fuzzing techniques and researching browser fingerprinting and cookie syncing to protect user's privacy against ad retargeting systems. Additionally, 4 years of industry experience as a DevOps and Software Engineer has honed my expertise in agile, complex technical environments.

## EDUCATION

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**PhD in Computer Science at Northeastern University** - Boston, MA Sept 2019 - 2025 (expected)  
Relevant Coursework: Software Vulnerabilities and Security, Machine Learning, Network Fundamentals, Advanced Algorithms

**BSc in Computer Engineering at University of Tehran** - Tehran, Iran Sept 2014 - July 2019

## PROFESSIONAL EXPERIENCE

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**Research Assistant at System Security Lab (SecLab)** - Boston, MA Sept 2019 - Present

- Developed and deployed over 10 web applications, enabling web application firewalls and bypassing them using fuzzing techniques. (Node.js, Golang, Python, PHP, Amazon AWS, Microsoft Azure, Google Cloud, Docker)
- Researching browser fingerprinting and cookie syncing prevention to limit data sharing between users and ad exchanges.
- Analyzing trends in open source software vulnerabilities through examination of CVE and CWEs.

**Senior DevOps Engineer at TAPSI** - Tehran, Iran Jun 2017 – Aug 2019

Tapsi is a ride-sharing platform serving millions daily. Started as an intern, advanced to full-time, and promoted to senior.

- Boosted system performance and increasing concurrent rides by 300%, from 5k to more than 25k rides, and cutting response time by 50% using message queues and pub-sub messaging. (RabbitMQ, Redis)
- Load balancing millions of concurrent requests. (Nginx, Traefik)
- Led deployment automation and containerization. (Docker, Docker Swarm, Kubernetes, Salt, GitLab CI).
- Developed key application features, including user management and dynamic pricing. (Node.js, Python)
- Established microservice log and monitoring systems. (Elastic, Prometheus, Grafana)
- Setting up data storage, caching, replication, and object storage. (Redis, MongoDB, PostgreSQL, MinIO)

**Co-Founder and Software Engineer at Lambede** - Tehran, Iran Jun 2016 - Jul 2017

- Designed and built Lambede from scratch, a web platform that connected service seekers with skilled experts, inspired by Task Rabbit. This project was my own startup initiative during undergrad. (Node.js, MongoDB, HTML, CSS)

## PUBLICATIONS

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**Open Source, Open Threats? Investigating Security Challenges in Open Source Software** (Submitted)

**WAFFLED: Leveraging Parsing Discrepancies to Bypass Web Application Firewalls** (Submitted)

**PriveShield: Enhancing User Privacy Using Automatic Isolated Profiles in Browsers** (Submitted)

**Browserprint: An Analysis of the Impact of Browser Features on Fingerprintability and Web Privacy** (ISC 2021)

## HONORS AND AWARDS

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- [BlackHat](#) USA Student Scholarship (2022, 2023, 2024)
- Best Undergraduate Thesis Project Award (2018)
- ACM Student Chapter Excellence Award (2016)

## TECHNICAL SKILLS

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**Advanced:** C/C++, Python, Node.js, Amazon AWS, Linux, Docker, Flask, JavaScript, GDB, Docker Swarm, Redis, RabbitMQ, Nginx, PostgreSQL, MongoDB, Selenium, Traefik, MinIO, Prometheus, Grafana, Elastic, Git, Raspberry Pi, Google Cloud, Microsoft Azure

**Familiar:** Kubernetes, Java, Kafka, Ansible, Memcached, PHP, Ruby on Rails, Django