

# Amirhossein SAEMI

## Software Engineer

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Saarbrücken, Germany



Backend developer with 5+ years of experience and a strong academic background in distributed systems, operating systems, and computer networks. Demonstrated capabilities in developing applications in various fields such as Mobility, Networking, and Energy with a focus on performance and reliability. Proficient in leveraging domain-specific concepts to deliver robust and efficient backend solutions, showcasing adaptability and transferable knowledge across industries. Committed to writing testable, standard code to ensure maintainability in all projects.

## SKILLS

Programming Languages	Python, Go, Rust
Databases	PostgreSQL, Redis, InfluxDB
Web Frameworks	Django, Flask, FastAPI, Django REST Framework
Tools & Practices	Git, Docker, CI/CD, Test Driven Development
Big Data & Distributed Systems	Apache Spark

## EXPERIENCES

Dec 2024 Sep 2025	<b>Research Assistant, MAX-PLANCK-INSTITUT, Germany</b> Worked in Professor Anja Feldmann's lab under Florian Steurer (PAM 2025 Best Paper Award) to deliver a high-performance tool in Go for large-scale IPv6 reverse DNS mapping. My responsibilities included: <ul style="list-style-type: none"><li>Extending YoDNS for IPv6 reverse DNS scanning.</li><li>Implementing load-balancing to protect nameservers.</li><li>Building heuristic probing for efficient DNS tree enumeration.</li></ul> <div>Go Python Apache Spark Prometheus Grafana</div>
Nov 2024 July 2023	<b>Software Engineer, GEOPS, Germany</b> geOps develops modern web applications based on geospatial and real-time data, with a strong focus on open-source technologies in transport, mobility, logistics, and the environment. At geOps, my responsibilities included: <ul style="list-style-type: none"><li>Contributing to the integration of APIs from Deutsche Bahn, Swiss Railways, and S-Bahn Munich.</li><li>Upgrading codebases to use SQLAlchemy2 and integrating asynchronous drivers for efficiency.</li><li>Refactoring data processing components to enhance scalability and performance.</li></ul> <div>Python Asyncio Django Flask SQLAlchemy PostgreSQL Redis GTFS/GTFS-RT</div>
Mar 2023 Apr 2022	<b>Software Engineer, GRIDSINGULARITY, Germany</b> Grid Singularity is an awarded open-source technology innovator, developing peer-to-peer energy exchange marketplaces, and a cofounder of the Energy Web Foundation. At GSy, my responsibilities included, but were not limited to: <ul style="list-style-type: none"><li>Extending the Energy Exchange Platform across multiple energy markets.</li><li>Enhancing matching strategies for better bid/offer matching.</li><li>Refactoring legacy codebase, enhancing system performance and stability.</li></ul> <div>Python Django GraphQL PostgreSQL DRF</div>
Mar 2022 Jan 2020	<b>Software Engineer, TUEMA, Italy</b> Tuema is a global team of developers and designers, specializing in web and mobile development. At Tuema, my responsibilities included: <ul style="list-style-type: none"><li>Leading a small team of 3 backend developers.</li><li>Designing an integrated accounting system.</li><li>Migrating existing Django templates to REST APIs.</li><li>Building and maintaining CI/CD pipelines to reduce deployment time.</li></ul> <div>Python Django PostgreSQL DRF Docker</div>



## PROJETS

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### LARGE-SCALE DNS TXT RECORD ANALYSIS

APR 2024 - OCT 2024

 Max-Planck-Institut

At MPI, I analyzed 3.5 billion DNS TXT records to identify insecure or malicious use cases, replicating and extending the study “TXTing 101” by Van Der Toorn et al. (2020). My work focused on categorizing unique records, investigating anomalies, and examining potential inconsistencies between nameserver responses.

Python Apache Spark



## LANGUAGES

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## EDUCATIONS

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| 2023-2025 | M.Sc. Computer Science - Universität des Saarlandes - Germany    |
| 2017-2021 | B.Sc. Computer Engineering - Qom University of Technology - Iran |