AMIR MAHDI RASOULI

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🌐 Homepage — 💻 GitHub — 🔗 LinkedIn

BIO

Backend Engineer specializing in **Python and Django** with 3+ years of experience building scalable, high-performance web applications. Expert in designing **RESTful APIs**, optimizing database schemas for data-intensive workloads, and architecting distributed systems. Combines strong software engineering foundations with practical DevOps skills (Docker, CI/CD) to ensure code quality and system reliability from development to production. Passionate about writing clean, maintainable code, leveraging ORM efficiency, and solving complex architectural challenges in production environments.

TECHNICAL SKILLS

Backend Development	Python, Django, Django REST Framework, FastAPI, Node.js
Databases & Data	PostgreSQL, MySQL, SQLite, MongoDB, database design, query optimization
Architecture & Systems	Microservices, REST API Design, Distributed Systems
DevOps & Tools	Docker, Git, CI/CD (GitHub Actions), Linux, Bash Scripting, Nginx
Systems Security	secure coding, basic system security, Linux hardening
Artificial Intelligence	Machine Learning, Deep Learning, Reinforcement Learning, TensorFlow

WORK EXPERIENCE

Backend Engineer   Oct 2024 – Mar 2025
Aalibaf Industrial Project (Sharif University)   *Tehran, Iran*

· Architected and developed scalable backend services using **Django** and **Django REST Framework**.
· Designed high-performance REST APIs to handle industrial data traffic, ensuring low-latency responses.
· Managed containerized application deployment using **Docker** and automated CI pipelines to streamline delivery.

Backend & Systems Engineer   July 2021 – Sep 2023
Roupel Dataware Co.   *Arak, Iran*

· Developed the core backend architecture for data-centric web applications and processing pipelines using **Django**.
· Designed and implemented efficient database schemas for large-scale datasets, reducing query overhead.
· Built internal automation tools to streamline data processing and integration workflows.
· Configured Linux environments to support stable and secure application runtime.

EDUCATION

M.Sc. in Computer Engineering - Computer Architecture   *Sep 2023 – Present*
Sharif University of Technology   GPA: 17/20

- Focus on systems engineering, reliability, distributed systems, and resource management.
- Teaching assistant for system-level computing courses like "Edge Computing".

B.Sc. in Computer Engineering   *Sep 2019 – Sep 2023*
Arak University   GPA: 18/20

- Worked on cloud deployment project for university academic infrastructure.
- Teaching assistant for software courses, including Python, C/C++ and Software Engineering.

SELECTED PROJECTS

- **Aalibaf Industrial Platform** 🌐 Website
  Django REST Framework, Docker, CI/CD, GitHub Actions
  - Led **backend** and DevOps development for an industrial platform.
  - Implemented secure authentication and complex business logic within the **Django REST framework**.
  - Containerized the application stack to ensure consistent environments across development and production.

- **Djungool: Django Code Generator CLI** 🔵 Source Code
  Python, Django, Automation, String Parsing
  - Created a command-line tool that automatically writes **Django** database code based on user inputs.
  - Designed this to save developers time by automating the repetitive parts of setting up a new project.
  - Implemented logic to read, parse, and write files programmatically.

- **Nmapy: Interactive Network Scanner** 🔵 Source Code
  Python, Socket API, ICMP/TCP Protocols
  - Developed a Python command-line tool to scan local networks, detecting active devices and open ports.
  - Implemented raw socket connections to perform TCP handshakes, identifying active services on target servers.
  - Built a custom traceroute function to map network paths, identifying hops and latency between the host and destination.

- **RASOUL: Reliability-Aware Resource Allocation Algorithm** 🔵 Source Code
  Python, Discrete Event Simulation, Distributed Systems, Algorithms
  - Engineered a fault-tolerant task mapping algorithm for distributed edge nodes, reducing user latency by analyzing node reliability history.
  - Designed a load-balancing mechanism to optimize resource utilization across heterogeneous server clusters (Fog/Edge layers).
  - Simulates real-time failure scenarios to validate system robustness under high-concurrency workloads.

LANGUAGES

- **English:** Professional Working Proficiency
- **Persian (Farsi):** Native Speaker