

# Homayoon Al (Alimohammadi)

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## PROFESSIONAL EXPERIENCE

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**DIVAR** (The biggest Iranian classified ads platform with +65M active users, alternative for eBay in Iran)

**Tehran, Iran**  
**2022-Present**

### Software Engineer

Architected, Engineered, and maintained highly available and reliable microservices under heavy load. Played a pivotal role in developing, refactoring, redesigning, and maintaining 5+ vital gRPC and REST microservices with 6000+ requests per second in both Golang and Python.

- Took a major role in the redesign and rewrite of the “Post Submit” gRPC microservice from Python to Golang, leading to a 60%+ reduction in the upper 99th percentile response time while providing a 99.99% uptime. Achieved a 95%+ reduction in average response size and a remarkable improvement in developers’ experience and productivity. Decreased call center load by 10%+ due to significant improvements in service reliability and observability.
- As the main owner and maintainer of the “Post Submit” microservice, coordinated six team members toward successful product releases. Optimized resource utilization by 85%. Enhanced test coverage and effectiveness considerably with both unit tests and end-to-end tests. Designed and developed innovative logging and observability solutions, resulting in a 70%+ more efficient and cost-effective log management and debugging processes.
- Developed custom Protoc plugins to ensure data integrity and consistency between different schemas. Also utilized code generation to increase accessibility and enhance developers productivity while providing type safety over previously loosely typed schemas.
- Developed and deployed a Python web application with Django during my internship. Heavily participated in data modeling and design. Ranked first amongst 3300+ participants in the entrance competition. Exemplified exceptional discipline, perseverance, management and technical skills, leading to an early hire during the internship and promotions within 6 months.
- Managed and successfully resolved critical incidents, especially during on-call shifts.

**CNAM** (Research Center of Nanostructured and Advanced Materials)

**Tehran, Iran**  
**2021-2022**

### Machine Learning Researcher/Developer

Integrated Machine Learning and Computer Vision with Materials Science and Engineering. Published 3 impactful journal papers during my tenure within a world-class laboratory.

- Pioneered the integration of Machine Learning and Computer Vision with the realm of Materials Science and Engineering alongside eight of the nation’s most accomplished students of the time.
- Co-authored 3 journal papers that delve into the practical applications of Machine Learning in the field of Materials Science. ([Google Scholar](#))

**AI MEDIC** (Healthtech AI startup company)

**Tehran, Iran**  
**2020-2021**

### Deep Learning Developer

Achieved state-of-the-art results in the field of computer vision. Mentored 20+ deep learning development interns.

- Researched and implemented cutting-edge computer vision models. Competed in the Medical Decathlon leaderboards and outperformed 200+ competitors.
- Utilized PyTorch to train a CNN for semantic segmentation of MRI images. Achieving an impressive DICE score of 89.14% on a publicly available dataset. Also used TensorFlow for comparison purposes.
- Supervised 20+ interns, facilitating their success in achieving high-quality research outcomes in the field of computer vision.

## EDUCATION

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**K.N. TOOSI UNIVERSITY OF TECHNOLOGY** (Top university in the field of AI in Iran)

**Tehran, Iran**  
**2023-Present**

### Master of Science in Artificial Intelligence

- Ranked top 1% in the nationwide entrance exam.
- Researched extensively in the field of NLP and Machine Learning.

- Scored top 5 amongst the participants in courses such as Natural Language Processing, Machine Learning and Evolutionary Computation.

SHARIF UNIVERSITY OF TECHNOLOGY (The best science and engineering university in Iran)

Tehran, Iran

*Bachelor of Engineering, Major in Materials Science and Engineering*

2018-2023

- Co-authored 3 journal papers alongside eight of the nation's most accomplished and talented students of the time. ([Google Scholar](#))
- Collaborated on three journal papers focusing on the fusion of Machine Learning and Computer Vision with Materials Science and Engineering, showcasing a distinct research-oriented approach.
- Ranked top 0.5% in the nationwide entrance exam.

## ADDITIONAL INFORMATION

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- **Technical Skills:**
  - **Programming Languages:** Golang, Python, Rust, JavaScript, Solidity
  - **DevOps:** Git, Kubernetes, Docker, CI/CD, SRE, Nginx, Linux, Helm, Grafana, Prometheus, Thanos, Ansible, Gitlab-CI, GitHub Actions, Vagrant
  - **Database and Queues:** PostgreSQL, Redis, MongoDB, RabbitMQ, Event Sourcing, Message Queues
  - **Frameworks:** gRPC, Gin, Hugo, Echo, Fiber, Django, FastAPI, Flask, TensorFlow, PyTorch, Keras
  - **Artificial Intelligence:** Deep Learning, Machine Learning, AI, NLP, Computer Vision, Data Science
  - **Architecture and Design:** REST, GraphQL, Software Architecture, System Design, Software Reliability and Observability, White-box and Black-box testing, Data Modeling and Database Design, UML
  - **Other:** HTML, CSS, Protocol Buffers (Protobuf), XML, JSON
- **Soft Skills:** Communication, Leadership, Problem-solving, Teamwork, Time Management, Emotional Intelligence, Creativity, Adaptability, Work Ethic, Attention to Detail, Interpersonal Skills
- **Languages:** Fluent in Persian (native) and English; Conversational Proficiency in French.

## PUBLICATIONS

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- Multilayered mesoporous composite nanostructures for highly sensitive label-free quantification of cardiac troponin-I (*Biosensors* | *M. Saeidi et al.*) ([Link](#))
- SCAPS Empowered Machine Learning Modelling of Perovskite Solar Cells: Predictive Design of Active Layer and Hole Transport Materials (*Photonics* | *M. Hasanzadeh Azar et al.*) ([Link](#))
- Functionalization of metal-organic frameworks with metallic nanoclusters for ultra-sensitive monitoring of morphine in biological fluids (*Biosensors and Actuators B: Chemical* | *M. Saeidi et al.*) ([Link](#))

## CONTACT

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