

Omid Sadeghnezhad

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🔗 [OmidSa75](#)

🇮🇷 Iranian

in [omid-sadeghnezhad](#)

📄 Profile

Experienced Machine Learning Engineer and Python Developer specializing in AI and Computer Vision for more than 5 years. Skilled in high-performance programming, ML model implementation, and system optimization. Proficient in leading technical teams and integrating cutting-edge AI technologies. Seeking opportunities to apply expertise in AI and computer vision to drive innovation and solve complex problems.

🧩 Research Interests

- Computer Vision and Video Processing
- High-Performance programming, Parallel Computing, and Multi-Processing
- Generative AI, Multimodal generative models
- Prompt engineering and management, Chain and agent architectures, Large Language Model (LLM) integration, Vector databases and semantic search, Retrieval-augmented generation (RAG)

🎓 Education

- 2020 – 2023 **K. N. Toosi University of Technology**
Master's Degree
Artificial Intelligence.
Seminar: Generative Adversarial Networks (GAN) Survey
- 2015 – 2020 **Shahrood University of Technology**
Bachelor's Degree
Electrical and Electronics Engineering.

📁 Professional Experiences

- 2023 - present **Team lead & Python Developer**
ParsTech.Co
- Introduced and programmed a graph-based workflow to create a user-defined dialogue flow for a personalized chatbot that can be customized with LLMs and RAGs.
 - Leveraged asynchronous I/O to enhance server capacity and reduce response times.
 - Improved multi-processing, multi-threading, and asynchronous programming skills of 12 of my coworkers.
- 2021 – 2023 **ML Engineer & Backend Developer**
ParsTech.Co
- Optimized RAM and CPU of the camera streaming service by about 30%.
 - Implemented a streaming service that can connect to 25 HD cameras with 12 cores CPU and 2.5 GB RAM to proceed 20 frames per second.
 - Integrated a system for detecting personal protective equipment with 4 cameras capable of 5 categories.
 - Developed a task-oriented framework to deal with ML models and pipelines in the production environments.
 - Dockerized 3 AI and 5 Backend services to run reliably and securely in any infrastructure.
 - Trained 5 of my co-workers to lead the different product services.

Professional Experiences (continued)

2020 – 2021

Machine Learning Engineer

TaraTech.Co

- Designed a pipeline containing 5 ML models (object detection, layout composition, pose detection, depth estimation, and image blending) for human localization on the background image.
- Trained an ACGAN model on the heart disease dataset to augment the data which achieved 70% accuracy in generating fake data.

2019 – 2020

Internship

Telecommunication Company of Iran

Skills

Languages	Reading, writing, and speaking competencies for English, Native Persian.
Coding	Python, sql, C, C++, L ^A T _E X
Databases	Mysql, sqlite, Redis, ElasticSearch
ML Frameworks	Pytorch, Scikit-Learn, Ray, LangChain
DevOps & Tools	Docker, Git, FastAPI, Celery
Computer Vision	GStreamer, OpenCV
Misc.	Multi-Processing and Threading Programming, Managing Shared Memory in Python, Implementing API, Task Queuing and Management, Image and Video Processing, Deep Neural Networks Implementation, Containerizing, Version controlling.

Research Experience

- Retrieval-augmented generation - 2024
- Evolutionary Algorithms and implementing Symbiotic Organisms Search algorithm (SOS) - 2023
- GAN Developments survey and Analyze the Latent space - 2022
- Clothes virtual try-on models survey - 2020
- Image harmonization and blending methods, color transfer methods, and color constancy with image to image translation - 2020
- Image depth extractions and salient object detection models - 2020