Pegah Salehi

AI Engineer | Generative AI | Computer Vision | LLM & RAG

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SUMMARY

AI Engineer with 5+ years of experience in generative AI (GANs, diffusion models, NeRF, AI avatars, and talking-head generation), computer vision (medical image analysis, image segmentation, and facial animation), deep learning, and LLM-based applications (RAG chatbots, document retrieval). Experienced in developing applied AI solutions from research prototypes to user-facing systems, with strong skills in Python, machine learning model development, and AI product implementation.

TECHNICAL SKILLS

Languages:	Python, SQL, MATLAB, C++
AI & Machine Learning:	Deep Learning, Computer Vision, Generative AI, Medical Image Analysis, Image Segmentation, Transfer Learning, Prompt Engineering
LLMs & RAG:	LLM-based Applications, RAG Architecture, Document Retrieval, Vector Search, LangChain, Azure OpenAI, Azure AI Search
Frameworks & Tools:	PyTorch, TensorFlow/Keras, scikit-learn, OpenCV, Pandas, NumPy, Matplotlib, Jupyter Notebook, Git, Docker
Deployment & Cloud:	REST APIs, Azure AI Services, Model Deployment, Experiment Tracking

WORK EXPERIENCE

Applied AI Engineer | Min Sone AS, Oslo — Aug 2025 – May 2026

AI product company developing interactive training and digital learning solutions

- Built a **RAG-based chatbot system** for Krifa, integrating **document retrieval**, **LLM-powered response generation**, and a user-facing chat interface to improve access to company knowledge. [Public Launch]
- Contributed to the development of Ago Course, a full-stack interactive training platform, focusing on **Python backend development** and **AI components** within a Next.js/React-based product stack.
- Created **AI-generated training videos** with **Google Veo** and designed **interactive course content** for electrician training scenarios.
- Configured a web-based community platform using WordPress, BuddyBoss, and Elementor to support digital learning product delivery. [Public Launch]

PhD Researcher | Simula Metropolitan Center for Digital Engineering (SimulaMet), Oslo — Oct 2021 – Oct 2025

Research center focused on applied AI, digital engineering, and human-AI interaction

- Developed interactive AI-powered child avatar systems for investigative interview training by combining **talking-head generation models**, **game-engine-based avatars**, **NLP**, **STT/TTS**, and real-time interaction pipelines. [Paper]
- Optimized **NeRF-based** talking-head generation by integrating **Whisper-based** audio feature extraction, reducing processing time and improving **low-latency avatar interaction**. [Code] [Paper]
- Built emotionally expressive avatar prototypes using Unreal Engine 5, MetaHuman, NVIDIA Omniverse Audio2Face, and Live Link for audio-driven facial animation. [Code] [Paper]
- Designed and evaluated **VR/avatar training prototypes** using **Unity 3D**, **Oculus Quest 2**, and **SALSA LipSync Suite**, and analyzed user engagement using **ANOVA**, **mixed-effects models**, and **SEM**. [Paper]

AI Engineer (Freelance) | Truviz Inc., Remote, U.S. — Sep 2024 – May 2025

AI startup developing conversational AI and avatar-based visual interaction systems

- Developed **talking-avatar features** for a **conversational LLM application**, enabling generated text and audio responses to be presented through expressive AI-driven visual agents.
- Implemented, tested, and customized open-source **GAN**, **diffusion**, and **talking-head generation** models for **avatar generation**, **facial animation**, and visual response generation workflows.

EDUCATION

Ph.D. in Computer Science (Generative AI)
UiT The Arctic University of Norway
Thesis: AI-Generated Avatar System for Professional Interview Training [Thesis]
Tromsø, Norway
Oct 2021 – Oct 2025

M.Sc. in Deep Learning & Medical Image Analysis
Razi University
Thesis (Grade A): GAN-based Stain Normalization for Histopathology Image Analysis
Related publications: [Paper 1] [Paper 2]
Kermanshah, Iran
Oct 2016 – Oct 2020

B.Sc. in Computer Science
Malayer University
Thesis: Software Tool for Image Segmentation and Analysis
Hamadan, Iran
Feb 2012 – Feb 2016

LANGUAGES

English: **Fluent** | Norwegian: **Elementary** | Persian: **Native**