

Alireza Dehghan

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ABOUT

Software Engineer with experience building backend systems, APIs, and applied AI solutions. Comfortable working across the full stack and infrastructure, with additional experience in GIS and research-driven projects. Experience delivering production systems in multidisciplinary environments. Open to relocation and visa sponsorship

EDUCATION

University of Padua <i>Master's in Computer Science – Artificial Intelligence track</i>	Sep. 2021 – Sep. 2024 <i>Padua, Italy</i>
University of Guilan <i>Bachelor's of Computer Engineering</i>	Sep. 2016 – Aug. 2020 <i>Rasht, Iran</i>

EXPERIENCE

.NET Backend Developer <i>M&P Informatica Srl</i>	Feb. 2025 – Present <i>Genoa, Italy</i>
<ul style="list-style-type: none">Develop RESTful APIs developed using ASP.NET Core for the company's new browser-based software for event management called Micesuite Webforms which is based on their proprietary MiceSuite softwareDesigned and implemented backend functionality on top of an Microsoft SQL Server databaseImplemented a backend-for-frontend architecture to reduce client-side processing and improve performance	
AI Engineer & Full Stack Developer <i>Loop AI Labs</i>	Sep. 2024 – Jan. 2025 <i>Milan, Italy</i>
<ul style="list-style-type: none">Training and deploying Machine Learning models.Developing frontend and backend using flask and JavaScript for the company softwares.Implemented an AI-assisted gym personal trainer which used TTS, STT, LLMs, Z3 solvers	
Master's Thesis: Self-Assessment Tool for Medical Exam Candidates <i>Loop AI Labs (Supervisor: Prof. Massimo Marchiori)</i>	Mar. 2024 – Sep. 2024 <i>Milan, Italy</i>
<ul style="list-style-type: none">Used sentence-transformer language models to encode medical-related text and generate context-aware exam questions.Integrated Retrieval-Augmented Generation (RAG) techniques to ensure relevancy in question generation.Utilized facial recognition and speech analysis to assess uncertainty in candidates' spoken responses.Deployed ML models via FastAPI, serving data to front-end ReactJS apps hosted on CentOS servers.	
IT Assistant & Project Manager <i>Venice Project Center</i>	Nov. 2023 – Sep. 2024 <i>Venice, Italy</i>
<ul style="list-style-type: none">Part-time job, Provided technical support and guidance for professor Fabio Carrera and WPI students, primarily in GIS projects using Esri's ArcGIS.Liaised on LLM-based research and machine learning projects designed for Venice's unique urban challenges.Supported more than 20 Worcester Polytechnic Institute student research projects and mentored interns in GIS and software development. A full list can be found on my websiteA portfolio of the applications that I have maintained and helped develop can be found at: veniceprojectcenter.org	
IT Intern <i>SerenDPT (Serenissima Development and Preservation through Technology)</i>	Sep. 2023 – Nov. 2023 <i>Venice, Italy</i>
<ul style="list-style-type: none">Maintained legacy codebases and updated deprecated Web Apps built with HTML/CSS and JavaScript/Typescript.Reduced hosting costs by migrating services and removing redundant servers.Deployed new front-end features using ReactJS and connected to SQL back-end databases.Handled IT support across Windows, MacOS, and network environments.	
Bachelor's Thesis: Bitcoin Price Prediction using Sentiment Analysis <i>University of Guilan</i>	Sep. 2019 – July 2020 <i>Rasht, Iran</i>
<ul style="list-style-type: none">Used NLP techniques to analyze Reddit sentiment for Bitcoin price prediction using Bayesian models.Experimented with machine learning models such as SVM, RNN, GRU, and LSTM to forecast Bitcoin price movements.Achieved a 57% accuracy using LSTM during daily time frames.	

PROJECTS

- IDTQ - Italy Driving Test Quiz** | *React Native, Android, iOS* Aug. 2025 – Present
- Developed a mobile application to help expats in Italy prepare for the Italian driving theory exam
 - The project was done entirely in React Native, Used NLP techniques to extract and structure exam content and keywords
 - Available on Google Play and the App Store
- Colorizing Images Using Deep CNNs** | *Django, ReactJS, Keras, AWS EC2, Amazon S3* Mar. 2023 – July 2023
- Designed and implemented a deep convolutional auto-encoder for colorizing grayscale images, achieving X% accuracy on the Microsoft COCO dataset.
 - Developed a full-stack web application using Django for the backend and ReactJS for the frontend, enabling real-time image colorization previews through a RESTful API (FastAPI).
 - Optimized deployment on AWS EC2, utilizing Amazon S3 for scalable file storage and ensuring high availability and performance.
- Matterport Flask Server** | *Flask, Amazon S3, Heroku, JavaScript, HTML/CSS* Jan. 2025 – Apr. 2025
- Developed a Flask-based server to host and showcase Matterport 3D models online, inspired by the matterport-dl project.
 - Implemented a customizable frontend using HTML, CSS, and JavaScript to provide an intuitive interface for accessing and viewing 3D models.
 - Integrated Amazon S3 for scalable cloud storage, enabling seamless deployment on both local servers and Heroku platforms.
 - See the project in action at scans.veniceprojectcenter.org.

TECHNICAL SKILLS

Programming Languages: Python (5+ years), JavaScript (ReactJS, Node.js), Java, C++, C#, SQL, R, Bash, PowerShell

Web Technologies: Django, Flask, FastAPI, ReactJS, HTML5, CSS3, RESTful APIs, Firebase, PostgreSQL

Machine Learning & AI: TensorFlow, PyTorch, Keras, Scikit-learn, NLTK, SpaCy, Huggingface, NLP, Deep Learning, Model Deployment

Cloud & DevOps: AWS (EC2, S3), Firebase, Terraform, Docker, Git, CI/CD

Tools & Others: Selenium, Pandas, Matplotlib, Data Analysis, GIS (Esri ArcGIS, QGIS), SQL Databases