Ali Nikoo

Machine learning Engineer

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LinkedIn ◇ GitHub ◇ Website

SUMMARY

Machine Learning Engineer with a deep focus on healthcare applications, specializing in designing, training, and deploying models for **predictive analytics**, **image classification**, and **personalized health recommendations**. Extensive knowledge of **Python, TensorFlow**, and **Keras**, with real-world experience in optimizing machine learning models and deploying them with high-performance user interfaces.

Highlights of Qualifications:

- Master of Engineering in Biomedical Engineering with specialization in Biomechanics, solid understanding of machine learning algorithms, statistics, and data analysis techniques.
- Hands-on experience with supervised and unsupervised learning techniques, including regression, classification, clustering, and dimensionality reduction.

CORE SKILLS

Data Science   Machine Learning & Deep Learning, Data Preprocessing & Feature Engineering, Computer Vision & Image Processing, Python, Scikit-learn, TensorFlow - Keras, Numpy, PyTorch, Matplotlib, Computer Science, Datasets, Artificial Intelligence, Large Language Models, Natural Language processing (NLP)

Software Development   Google Colab, JupyterLab, Version control (GitHub), Programming Languages, AWS, Google Cloud

Research and Analysis   Gait Analysis, Biomechanics & Biomaterials, STEM, Research Projects, Research And Development

EXPERIENCE

AI Developer (Computer vision)   Jan '24 — Present
Dade Pardaz Caspian Oxin   Esfahan, Iran, Islamic Republic Of (Remote)
Designed and deployed machine learning models for healthcare applications and predictive analytics.

- Designed and developed a **convolutional neural network (CNN) model** for **lung X-ray classification**, achieving over 90% accuracy in diagnosing lung conditions, including **pneumonia** and **lung cancer**, through **multi-label classification**.
- Built a **predictive healthcare recommendation system**, employing **machine learning algorithms** to analyze patient data and deliver personalized health insights, significantly improving patient engagement and decision-making.
- Developed and deployed a **house price prediction system** using **regression models** and **data visualization techniques**, integrating the model into a **PyQt5-based graphical user interface** for seamless use by real estate professionals.

Machine Learning Engineer (Internship)   Aug '23 — Dec '23
NURALOGIX   Toronto, Canada (Remote)
Developed machine learning models for health biometrics analysis using facial imaging data, contributing to AI-driven health tools and real-time health metric predictions.

- Worked on **health biometrics analysis**, developing machine learning models to predict health metrics based on facial imaging data using **TensorFlow** and **Keras**.
- Implemented preprocessing pipelines for large-scale biometric datasets, improving data quality and model accuracy by 15% through advanced **feature engineering** techniques.
- Collaborated with a multidisciplinary team to design and deploy predictive models that were integrated into real-time health analysis software, contributing to product development for Nuralogix's AI-driven health tools.

Biomedical Engineer   Sep '17 — Jun '20
NovinMed   Esfahan, Iran, Islamic Republic Of

- Designed and developed **detailed CAD models** and drawings for medical and physiotherapy devices, ensuring compliance with **safety standards**, **ergonomic principles**, and **functional requirements** using **SolidWorks**.
- Conducted comprehensive **finite element analysis (FEA)** within **SolidWorks** to evaluate **stress distribution**, **deformation**, and **safety margins**, ensuring robust and reliable product performance.
- Partnered with **manufacturing engineers** to optimize designs for **cost-effective production** while maintaining the **manufacturability** and **quality** of medical devices.

EDUCATION

Master in Biomedical Engineering (Biomechanics), University of Ottawa (UO) (GPA: 3.8/4.0)   Sep '20 — May '22
                                                                                      Ottawa, Canada

- Conducted research focused on **prosthetic actuator design and optimization** using machine learning techniques to simulate and analyze performance improvements in assistive devices.
- Applied **machine learning** to biomechanics, leveraging **Python, MATLAB,** and **SolidWorks** to conduct simulations and create accurate models for prosthetic devices, improving functionality for end users.

Master in Biomedical Engineering (Biomaterials), Amirkabir University of Technology (AUT) (GPA: 17.25/20.0)

Sep '17 — Jan '20
Tehran, Iran

- Led a research project on **mandibular reconstruction plate design**, developing and optimizing patient-specific plates using **biocompatible materials** and **finite element analysis (FEA)** to ensure structural integrity.
- Demonstrated proficiency in **biomechanical simulations** and **3D modeling**, applying **biomaterials knowledge** to solve complex clinical problems in maxillofacial surgery.
- Developed a **biomechanical model** of the mandibular structure using **SolidWorks** and finite element software, ensuring the **durability and mechanical strength** of the plates under different loading conditions.

PROJECTS

A Lung X-ray Image Classification model using deep learning Link

- Developing CNN model for **lung X-ray classification**, achieving 85% accuracy in detecting conditions.

A Healthcare Recommender-Disease Classifier Chatbot Link   Nov '24 Present

- Developed AI-powered **medical chatbot** for appointment booking, prescription management, and symptom checking.

A Liver disease stages predictor model using clinical data and ML model Link   Oct '24 Present

- Created classification model for **liver disease staging** using **clinical data** and machine learning.

A web crawler to extract listings from a local market website Link   Aug '24 Present

- Built a **web crawler** to extract second-hand car listings from **Divar** for analysis. skills: Artificial Intelligence

Cost Function Sensitivity in Predictive Simulations for Assistive Device Design Link   Sep '20 — May '22

- Optimized prosthetic actuators using **Python**, improving device performance with **biomechanical simulations**.

AWARDS

Best Use of AI in Clinical Research
British Institute of Radiology (BIR)
For advancing AI-based diagnostic tools in clinical practice.

AI in Healthcare Excellence Award
Health 2.0 Conference
For impactful applications of machine learning in healthcare.