Ali Nikoo, EIT

Machine Learning Engineer

Vancouver, BC • a.nikoo90@gmail.com • linkedin.com/in/alinik031 • github.com/AliNikoo73 • **(+1) 778-358-7005**

SUMMARY

As a professional with a master in biomedical engineering and a focus on machine learning and AI, I combine my expertise in biomechanics, healthcare analytics, and data science to solve real-world challenges. With several years of experience across diverse sectors, including medical devices manufacturing and academia, I specialize in developing machine learning models, predictive analytics, and AI-driven solutions to drive business insights and innovation.

WORK EXPERIENCE

Machine Learning Engineer @ Dade Pardaz Caspian Oxin 06/24 - Present

- Built and productionized scalable machine learning pipelines to enhance data preprocessing workflows.
- Developed predictive models to optimize data cleansing and improve downstream data analytics tasks.
- Collaborated with cross-functional teams to integrate ML models into data processing systems, ensuring efficiency and accuracy.
- Researched and implemented cutting-edge ML techniques, including supervised learning algorithms, to solve key data processing challenges.
- Monitored and optimized model performance in production, addressing issues related to model drift and data anomalies.

Machine Learning Engineer (Internship) @ Nuralogix 01/24 - 05/204

- Worked on creating automated processes to clean and prepare data, making sure the data was ready for machine learning models used in health biometrics analysis.
- Handled data from different sources, transforming it to fit the needs of real-time health monitoring models, ensuring everything was optimized for accuracy.
- Contributed to projects focused on improving prediction models for assessing cardiovascular and metabolic health through AI technology.
- Teamed up with product and engineering teams to make data preparation smoother for health monitoring systems that analyze biometrics from facial videos.
- Developed new ways to handle and prepare data, helping improve how the models detect and analyze health indicators from facial images.
- Worked on cleaning and refining the data to make sure health biometrics predictions were accurate and reliable in AI-driven assessments.

Biomedical Engineer @ Novinmed 09/17 - 06/20

- Generated detailed CAD drawings, ensuring adherence to safety standards, ergonomic principles, and functional requirements.
- Worked closely with mechanical engineers, biomechanics experts, and clinical specialists to understand the functional needs of the equipment.
- Conducted literature review to gain understanding of the edge of technology and have a better perspective on business problems.

- Performed finite element analysis (FEA) simulations within SolidWorks to assess stress distribution, deformation, and safety margins.
- Collaborated with manufacturing engineers to ensure manufacturability and cost-effectiveness.
- Created 3D models of physiotherapy devices using SolidWorks.

SKILLS

Software/Tools

- Google Colab
- JupyterLab
- Version control (GitHub)
- Cloud platforms (AWS)
- Mimics - 3 Matic
- (CAD)/CAM - SolidWorks
- 3D Printing & Bioprinting Printers
- Finite Element Analysis (FEA) - Abaqus

Technical/Knowledge

- Machine Learning & Deep Learning
- Computer Vision & Image Processing
- Data Preprocessing & Feature Engineering
- Research & Development
- Customized Implant Design
- Gait Analysis
- Biomechanics & Biomaterials

Language/Libraries

- Python
- Scikit-learn
- TensorFlow - Keras
- Numpy
- PyTorch
- Matplotlib
- CSS
- HTML

EDUCATION

University of Ottawa (UO), Ottawa, ON

Master of Engineering — Biomedical Engineering (Biomechanics), 09/20 - 05/22

Amirkabir University of Technology (AUT), Tehran, Iran

Master of Science — Biomedical Engineering (Biomaterials), 09/17 - 01/20

SELECTED ACCOMPLISHED PROJECTS & PUBLICATIONS

- Lung X-ray Image Classification model using deep learning (click me).
- Healthcare Recommender-Disease Classifier Chatbot (click me).
- Liver disease stages predictor model using clinical data and ML model (click me).
- A web crawler to extract listings from a local market website (click me).
- A comprehensive study (AUT Thesis) on use of a fixation plate in mandibular reconstruction surgery.
- A study to explores how different cost functions affect predictive simulations in the design of assistive devices.
- This is the paper out of UO Project (click me).
- A comprehensive guide on 3D bioprinting technologies, written in Farsi (click me).