

Yusuf Abdi

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Professional Summary — Energetic Computer Science, Machine Learning, Deep Learning, Data Mining Techniques, Computer Vision, programming logic, Applied Math, Statistics for Machine Learning, seeking to leverage solid skills with a focus on collaboration, communication, and passion in teaching. Able to perform multiple tasks successfully in high-stress environments, and a team player with strong organizational skills to effectively accomplish objectives.

Skills

Technical Machine Learning Libraries and Framework, NLP/LLP, **Medical-Image-Analysis**, Data labeling, Augmentation, Data Handling, Data-mining and analysis, along with a solid understanding of data structures, algorithms, and Web Development.

Languages Python, JavaScript, Java, C, C++, SQL, R, HTML/CSS, Full-Stack, React, Git, Unit Testing

Certificates Grant Writer, Mediator at State of Massachusetts, Certified Mental Health First Aid U.S.A

Multilingual English, Somali, Arabic, Hindi

Experience

Machine Learning Engineer, Research Collaborator

Jan 2024 – Present

Mass General Brigham, Radiology Department

- Design and develop deep learning models for automation in medical image analysis with **98 percent Accuracy**.
- Prepare and process various large datasets of medical images to be compatible for Machine Learning; tasks included: labeling, normalization, augmentation, and annotation. Collaborate with the radiology doctor to understand clinical requirements and translate them into an AI-driven solution. Contributed to the research outcome paper on the technical procedure.

Career Services Manager

Apr 2021 – Present

International Institute of New England (IINE)

- Manage the employment department and employer partnerships, leading to over 1000 successful job placements and increased client's self-sufficiency.
- Supervise team of **13 Employment Specialists**, **3 interns**, and **4 professional volunteers** (including physicians, engineers, HR professionals, and professors).
- Designed and implemented strategic goals for the employment department to align with organizational and client outcomes. Oversee compliance with federal, state, and internal reporting requirements, ensuring timely submission of employment outcomes and enrollment data.

Teaching Assistant, Data Mining Techniques (Supervised/Unsupervised ML/NLP)

Jan 2024 – May 2025

Khoury College Northeastern University

- Held office hours, created draft assignments, quizzes, and graded, and managed student discussion forums.
- Taught lab sessions for the course with **over 100 students**. Served as lead teaching assistant, managed and assisted and oversaw course logistics and instructional duties.

Machine Learning Engineer, Research Trainee

Oct 2023 – Jan 2024

Mass General Brigham, Radiology Department, Harvard Medical School

- Developed Deep Learning Algorithms, Tasks included: Prepared, labeled, and managed CT imaging datasets (DICOM/NIfTI format). Implement Machine learning model and evaluate model metrics. Collaborated with a radiologist doctor to validate model performance.

Employment Specialist

Jan 2014 – Apr 2021

International Institute of New England (IINE)

- Conducted client intakes, maintained caseloads, and provided individualized employment support, including job search, application assistance, and interview preparation. Facilitated client-employer interactions by offering interpretation, resolving workplace issues, and educating clients on U.S. workplace norms through one-on-one sessions and workshops.

Employment Counselor

Jul 2009 – Dec 2013

U.S. Committee for Refugees and Immigrants/ Vermont Refugee Resettlement Program, Colchester, VT

Interpreter

Jul 2009 – Dec 2013

U.S. Committee for Refugees and Immigrants/ Vermont Refugee Resettlement Program, Colchester, VT

Computer Instructor

Apr 2009 – Dec 2013

Fletcher Free Library, Burlington, VT

- Prepared lesson plans and taught foundation computer literacy to students pursuing GED and HiSET.

Education

Northeastern University <i>M.S of Computer Science</i> <i>Major: AI, Machine Learning, Computer Vision, Software Engineer</i> <i>Minor: Computer Science</i>	2021-2025
University of Massachusetts Lowell <i>Master Program of Peace and Conflict Studies</i> <i>Major: Social Economic Development</i> <i>Minor: Community Conflict Resolution</i> <i>Thesis: Prospect of Labor Integration: Somali Mainers in Housekeeping, Caregiving, and Farming, Supervised: DR.Thomas Piñeros Shields, Ph.D., (Thesis Advisor) Assistant Teaching Professor, Department of Sociology.</i>	2015-2019
Middlesex Community College <i>Associate Math</i>	2019-2020
Mogadishu University <i>Bachelor of Economics and Science</i>	1999-2003

Research Projects

Clinical Assertion Model Natural Language Processing – Developed a supervised NLP-based Clinical Assertion Model to extract key information from clinical notes, improving assertion classification accuracy and supporting more accurate, timely decision-making in patient care.	Spring 2024
Assessment of Machine Learning Algorithms Used in Classification of Breast Cancer Tumors – Used Machine Learning models to classify breast cancer; Neural Network achieved highest accuracy at 98.2 percent, improving diagnostic precision and outcomes.	Spring 2023
Database Management Systems Built a MySQL database to analyze FAA bird strike data effectively. – Designed and implemented MySQL and SQLite databases to analyze bird strikes and mine transactional data using star schema for analytical queries.	Fall 2022
Optimizing Northeastern’s RedEye Shuttle Routes Using Minimum Spanning Tree Algorithms: A Cost-Efficient and Time-Saving Approach – Northeastern University is the original node Used Euclidean distance formula, calculated the weight. The approaches, Queue, TSP: Prim’s Algorithm, Minimum-weight Spanning Tree, Kruskal’s Algorithm, the goal was to find lowest time complexity which was Kruskal’s algorithm $O(V^2)$	Summer 2022
Network Traffic Analyze in Java programming language – Network Traffic Analyzer is a package analyzer software that screens all network movement. The project is written in the Java programming language. The application admin of the system can take network packets and analyze data received/sent from/to the network. System performance will be enhanced, and traffic will be controlled.	Fall 2021

Publications

Automated Detection and Segmentation of Ascending Aorta Dilation on a Non-ECG-Gated Chest CT Using Deep Learning <i>Authors: Fargana Aghayeva, Yusuf Abdi, Ahmad Uzair, Ayaz Aghayev</i>	
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