

IMAN ASFAW

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MACHINE LEARNING ENGINEER

Machine learning Engineer with 5+ years of experience in research and development of predictive models, Natural language processing (NLP) and computer vision using Python and Keras. Proficient in utilizing the Machine Learning Development Cycle, primarily in the technology and education industries. Hands on experience utilizing technologies such as Pandas, Scikit-learn, and Pytorch.

Machine learning modeling ☐ Data cleaning and analysis ☐ Natural Language Processing ☐ Computer Vision
MLOps ☐ DevOps ☐ Continuous Integration/Continuous Development (CI/CD) ☐ Linux ☐ Data Structure and Algorithms

Languages: Python, R, C++

Frameworks: Keras, Pytorch, Scikit-learn, Pandas, Streamlit, OpenCV, Node.js, Express.js

Databases: MongoDB

SDLC: Machine learning Development Cycle (MLDC)

Tools: Neovim, W&B, Visual Studio, MLflow, DVC, Docker

Platforms: Linux, Windows

Big Data: Hadoop, Spark, RapidMiner

PROFESSIONAL EXPERIENCE

CAREER NOTE: Completed on-campus studies and currently taking distance education courses to complete a **Master's Degree in Computer Science** (Available for full-time, W-2 employment).

ADDIS ABABA UNIVERSITY, Addis Ababa, Ethiopia ☐ 06/2023 – 10/2023

Public University in Ethiopia.

Machine Learning Engineer

Researched and developed Machine Learning models that can help in reducing the child mortality rate in Africa using various data sources and analytics tools to influence policymakers in UNICEF about the right policy for each African country.

- Processed tabular datasets using R and Python for the child mortality prediction model, enhancing prediction accuracy.
- Trained Neural Networks and Random Forest models to predict child mortality rates and Vitamin A coverage with R2-squares of 0.98 and 0.96, respectively, and performed data analysis and feature extraction to provide critical insights for field experts.
- Conducted prediction interpretation using LIME, helping field experts understand and interpret the model's predictions.

Technologies Used: Python, Pandas, R, Streamlit, Scikit-learn

MEREB TECHNOLOGIES, Addis Ababa, Ethiopia ☐ 02/2022 – 10/2023

Outsourcing company that provides B2B and web solutions to international clients.

Software Engineer

Built backend modules.

- Designed a feature for the cryptocurrency module that allows users to view wallets and transfer credit using Express.js and Node.js, helping users manage their crypto accounts more effectively.
- Developed a solution for the admin module to efficiently retrieve user data from a MongoDB database using JavaScript and Node.js, resulting in an 80% improvement in performance compared to the previous version.
- Dockerized backend server with MySQL and Redis integration, streamlining testing and increasing development speed by 70%.

Technologies Used: JavaScript, Node.js, Express.js, Circle ci, MySQL, MongoDB, Redis, Docker Visual Studio

BAYLOR COLLEGE OF MEDICINE, Houston, TX, USA ☐ 03/2021 – 11/2021

Research institute at the Baylor College of Medicine, Rice University that is focused in Genome mapping.

Machine Learning Research Fellow

Designing models, cleaning dataset and training.

- Developed an unsupervised AI algorithm in Python for genetics research, identifying differences in human cell datasets to distinguish between cancer-affected and non-affected cells, earning a \$1500 award.
- Discovered key cancer-related genetic components using an AI model on real cell datasets, achieving 90% accuracy in a published research paper accepted at workshops.

Technologies Used: Python, Pandas, Google Colab

ICOG-LABS, Addis Ababa, Ethiopia □ 08/2018 – 11/2021

Research and development company conducting AGI related research.

AI Engineer

Developed AI models

- Contributed to developing a highly efficient AI algorithm in C++ for MOSES, achieving 98% accuracy.
- Developed a Scheme-based database querying module for AtomSpace, increasing performance by nearly 70%.
- Built a fake news classifier using Idris and Haskell with 95% accuracy, demonstrating the languages' effectiveness in machine learning.
- Tested the Opencog AGI agent with a Ping-pong OpenAI gym environment using Python, helping iCogLabs secure significant funding through a client demo.
- Conducted unit and system testing with CxxTest, and performed code fixes and enhancements for future releases and patches.

Technologies Used: Python, C++, CxxTest, Haskell, Pandas, Bash script

Junior Machine Learning Developer (08/2017 – 10/2018)

ACADEMIC PROJECT

At **Maharishi International University (2024)**, I contributed to a project converting American Sign Language to text and speech from live video streams. My roles included model selection, development, and prediction postprocessing, with results interpreted using LIME. The models were developed in Keras and implemented in Python, trained on Google Colab and Kaggle Notebook.

EDUCATION

Master of Science in Computer Science

(In progress via distance education; expected completion date 06/2026)

Maharishi International University, Fairfield, Iowa

Key Courses: Big Data, Machine Learning, Enterprise Architecture, Web Application Programming

BSc in Software Engineering

Addis Ababa University, Addis Ababa, Ethiopia