

Kiflom Tesfamariam

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Fully Work Authorized | No Visa Sponsorship Required | Open to Relocation

PROFESSIONAL SUMMARY

EIT licensed Mechanical engineer with over 6+ years of experience in overseeing, diagnosing, and designing HVAC, CFD modeling & Simulation, mechanical designing, thermal analysis, energy recovery, specializing in thermodynamics, heat transfer, and fluid dynamics. Proficient in CFD modeling and simulation, finite element analysis, machine learning algorithms, and data processing. Strong communication, teamwork, analytical, decision-making, creativity, supervision, and problem-solving skills. Proven ability to reduce design time and improve system efficiency using AI-driven modeling and simulation tools.

Key Skills

- Mechanical Software: SOLIDWORKS, AutoCAD, ANSYS, COMSOL Multiphysics, Tecplot, Paraview
- Programming Languages and OSs: Python, C++, Matlab, FORTRAN, SQL, Microsoft Office, Windows, Linux
- Thermal System Design & Analysis, Heat Transfer & Thermodynamics, HVAC & Energy Systems, Design
- CFD Modeling (ANSYS Fluent, COMSOL) & FEA & Thermal Stress Analysis
- MATLAB, Python (SciPy, NumPy, Scikit-learn),
- Machine Learning Surrogate Models (TensorFlow, Keras, Scikit-Learn, PySpark, OpenCV)
- Strong proposal, technical report, scientific paper writing, and excellent presentation

PROFESSIONAL EXPERIENCE

Machine Learning Engineer

Bisha Mining Share Company | 09/2020 – 08/2023

- Launched a Support Vector Machine for separating the core samples into high-grade and low-grade categories.
- Built a Support Vector Machine for identifying different types of minerals based on their chemical composition.
- Applied SVM for estimating the depth of gold mineral and boosted the performance by 14% from traditional.
- Utilized unsupervised learning techniques: clustering and dimensionality reduction to perform data analysis.
- Performed statistical analysis, feature engineering, fine-tuning, and built a pipeline for executing ML requests.

Research and Teaching Assistant

Florida International University, Florida | 08/2018 – 08/2020

- Performed numerical simulation for a transient air, heat, and moisture transfer in a 2D wall using COMSOL
- Created 3D complex TMC geometry on SOLIDWORKS and simulated multi-phase flows using ANSYS
- Generated computational meshes for complex 3D geometry, validated, sketched, and wrote using ANSYS.
- Developed, evaluated, and validated a Finite Element analysis of a bicycle crank using ANSYS “static structure”

ADDITIONAL WORK EXPERIENCE

Research and Teaching Assistant

Eritrea Institute of Technology | 01/2014-10/2017

- Designed, validated, and installed a 12m³ biogas plant using students’ cafeteria food waste as raw materials.
- Assisted the head department in the departmental work and advised students on final year projects.
- Prepared and mounted laboratory teaching equipment such as a heat pump, refrigeration, centrifugal pump, and instructional manuals, and taught pipe friction, centrifugal pump, air compressor, and Losses in a pipe fitting
- Taught undergraduate mechanical engineering CAD courses for 300+ students for 3 years.

Associate Mechanical Engineer

Beleza Thermal Power Plant, Eritrea | 06/2012 – 12/2013 Designed and evaluated a solar vapor absorption refrigeration system

- Optimized system design and component selection to achieve the desired performance
- Performed quality checks to ensure the system is working efficiently and safely
- Investigated equipment failures to diagnose faulty operation and recommend remedial actions
- Carried out maintenance on the HVAC components

Mechanical Engineer Intern

Alef Aeronautics, San Mateo, CA | 10/2023 – 01/2024

- Designed, manufactured, and tested the suspension system for flying cars using SOLIDWORKS.
- Designed and crafted the model’s body using carbon fibers

Mechanical Engineer, Internship

Beleza Thermal Power Plant, Eritrea | 07/2011 – 08/2011

- Worked with a team on equipment failures, identifying and overhauling the steam power system components

Mechanical Engineer, Internship

Eritrea Equipment PLC, Eritrea | 07/2010 – 08/2010

- Assisted senior Engineers in repairing, overhauling, and cleaning components of heavy machine Engines

EDUCATION

Master of Science (MS), Mechanical Engineering

02/2020

Florida International University

Bachelor of Science (BS), Mechanical Engineering

04/2013

Eritrea Institute of Technology

PROFESSIONAL DEVELOPMENT CERTIFICATIONS

- Professional Certificate in Machine Learning and Artificial Intelligence, UC, Berkeley Executive Education, College of Engineering and Haas School of Business **09/2022 - 03/2023**
- Data Science and Machine Learning BootCamp, Udemy
- Data Structure and Algorithms, Udemy
- Computer Vision with OpenCV and Deep Learning, Udemy
- Complete guide to TensorFlow for Deep Learning, Udemy