

YOHANNES TESFAYE

AI & Data Intelligence Engineer | Software Engineer | Automation & Analytics

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PROFESSIONAL SUMMARY

AI & Data Intelligence Engineer with hands-on experience building data-driven intelligence systems, analytics platforms, and full-stack software solutions across climate finance, agriculture, transportation, and economic sectors. Proficient in Python, FastAPI, React Native, REST APIs, and cloud-based development, with a strong foundation in data engineering, statistical analysis, and machine learning. Actively developing expertise in AI agents, workflow automation, LLMs, n8n, Claude Code, GitHub Copilot, and Retrieval-Augmented Generation (RAG). Known for translating complex datasets into actionable, decision-ready insights and for rapidly adopting modern AI engineering practices to solve real-world business and societal challenges.

TECHNICAL SKILLS

- **Programming Languages:** JavaScript, TypeScript, Python, SQL
- **Backend & Software Engineering:** Node.js, FastAPI, REST API Design, API Integration, Software Architecture
- **Data Engineering & Analytics:** Data Collection & Cleaning, ETL Pipelines, Data Aggregation, Exploratory Data Analysis (EDA), Statistical Analysis, Business Intelligence
- **Databases:** PostgreSQL, MySQL, Firebase, JSON-based storage
- **AI & Automation:** Machine Learning, LLMs, RAG (in progress), n8n Workflow Automation, GitHub Copilot, AI-Assisted Development, AI Research
- **Tools & Platforms:** Git, GitHub, Postman, VS Code, Jupyter Notebook

SELECTED PROJECTS

Ethiopian AgroWeather Intelligence System

Climate & Agricultural Intelligence Platform

- Built a climate-smart intelligence platform integrating weather and agricultural datasets to support farm planning and climate resilience.
- Designed data pipelines to ingest, clean, and merge multi-source climate and agricultural records into a unified analysis-ready dataset.
- Applied statistical and machine learning techniques to convert raw environmental data into decision-support insights for farmers and agricultural stakeholders.
- Researched regional climate risk indicators to inform adaptation strategies for smallholder and commercial farming contexts.

Python, Data Analytics, Climate Data Processing, Machine Learning, Research Analytics

Ethiopian Climate Finance Intelligence

Data Intelligence & Analytics Platform

- Designed a data intelligence platform to collect, process, and analyze fragmented climate finance data from multiple sources.
- Consolidated disparate funding, investment, and policy datasets into a structured format enabling cross-source comparison.
- Applied statistical analysis to surface funding trends and investment patterns across climate finance instruments.
- Generated evidence-based reports that improved accessibility of funding trends and investment insights for researchers and policymakers.

Python, Data Analytics, Data Processing, Machine Learning, Statistical Analysis

Ethiopian Food Price Analysis

Economic Intelligence & Market Analytics

- Cleaned and engineered a real-world Ethiopian food price dataset (handling missing values, duplicates, and time-based features) to enable reliable trend analysis.

- Conducted EDA revealing a consistent inflationary trend and significant regional/market-level price variation across commodities.
- Built and tuned Random Forest Regressor models, segmenting food vs. livestock commodities to improve accuracy and interpretability.
- Achieved strong predictive performance (R^2 of 0.94 on food commodities, 0.89 on livestock), identifying commodity type and time as the most influential price drivers.
- Documented findings and limitations in a structured technical report, with a roadmap for time-series forecasting (ARIMA/Prophet) and API/dashboard deployment.

Python (Pandas, NumPy, Scikit-learn), Matplotlib, Seaborn, Jupyter Notebook

AI Website Feature Auditor

AI-Powered Product Evaluation Framework

- Designed an AI-assisted framework to audit website functionality, usability, and feature completeness.
- Defined structured evaluation criteria spanning feature coverage, UX quality, and technical completeness for repeatable audits.
- Built automated checks that generate structured, prioritized recommendations for product improvement.
- Established a scalable methodology for identifying product enhancement opportunities across digital platforms.

AI Analytics, Product Evaluation, Research Frameworks, Data Analysis

Sheger Transit+

Smart Public Transportation Platform

- Designed a smart transportation platform concept covering real-time vehicle tracking, route optimization, and commuter analytics.
- Built a React Native mobile front end paired with a FastAPI backend to serve real-time transit and route data.
- Modeled geospatial concepts for route mapping and live vehicle positioning to improve commuter visibility.
- Contributed to solutions aimed at improving commuter experience and service reliability across Addis Ababa's transit network.

React Native, FastAPI, APIs, Geospatial Concepts, Analytics

Gebeta Food Delivery Platform

Full-Stack Restaurant & Delivery System

- Developed application architecture for restaurant management, ordering, authentication, and delivery workflows.
- Designed the database schema and REST API layer connecting the React Native app to Firebase and backend services.
- Implemented user authentication and recipe-sharing features to increase engagement within the platform.
- Built scalable infrastructure improving operational efficiency and customer experience across the food service ecosystem.

React Native, FastAPI, Firebase, REST APIs, Database Design

EDUCATION

Bachelor of Science in Software Engineering

Graduated July 2025

HiLCoE School of Computer Science and Technology

CORE COMPETENCIES

- Analytical Problem Solving
- Data-Driven Decision Making
- AI Research & Evaluation
- Process Optimization
- Technical Documentation
- Rapid Learning & Adaptability
- Stakeholder-Oriented Solution Design
- Cross-Functional Collaboration
- Software Architecture & Systems Thinking