

Yonatan Tesfagiorgis

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EDUCATION

University of Houston, Houston, TX

Expected May 2026

Bachelor of Science, Computer Science

Texas State Technical College, Rosenberg, TX

July 2019

Associate of Science, Cybersecurity

SKILLS AND CERTIFICATIONS

Programming Languages: Python, C++, JavaScript, PHP, MySQL, HTML, CSS

Frameworks & Libraries: React.js, Vite, Node.js, Express.js, Flask, scikit-learn, PyTorch, NLTK, spaCy, TensorFlow

Web Development: RESTful API Development, Frontend & Backend Development, Git, GitHub

Networking & Security: TCP/IP, LAN/WAN, VPN, Palo Alto Networks, Cisco ASA, Wireshark

Operating Systems: Windows 11, Windows Server 2012/2016, macOS, Linux/Unix

Data Science & ML: Pandas, NumPy, Matplotlib, R, EDA, Model Training & Evaluation, Logistic Regression, Decision Trees, SVM, CNN, BERT, Sentence Transformers, LLM, RNN, Reinforcement Learning, LSTM, Autoencoders, Diffusion Models

Certifications: CompTIA Security+, CompTIA CySA+

PROJECT EXPERIENCE

GitHub: <https://github.com/ravenfire24>

University of Houston

NLP Aspect-Based Sentiment Retrieval System (Python, scikit-learn, NLTK, BERT)

August 2025 – November 2025

- Developed an aspect-based sentiment analysis system processing 10,000+ Amazon product reviews.
- Integrated Logistic Regression and BERT embeddings to improve sentiment classification accuracy.
- Implemented Sentence-Transformer embeddings with cosine similarity for semantic search and review matching.
- Achieved higher precision across all aspect queries compared to a traditional keyword-based baseline model.

Sales Prediction Model (Python, scikit-learn)

January 2025 – May 2025

- Built a supervised machine learning regression model to forecast sales using marketing spend, seasonality, and holiday features.
- Performed feature engineering and model evaluation using R², cross-validation, and error metrics.
- Achieved an R² score of 0.87 on test data.
- Designed predictive analytics workflows to forecast sales up to 12 months ahead.

Volunteer Management Application (Full-Stack: Python/ Flask, React, MySQL, ML)

June 2025 - August 2025

- Developed RESTful backend APIs for authentication, user management, and event scheduling.
- Built a responsive React.js dashboard for managing volunteers and analytics.
- Implemented real-time data visualization and automated report generation (PDF, CSV).
- Enabled administrators to track volunteer participation across 50+ events using data-driven insights.

Inventory Management System(C++)

September 2024 – December 2024

- Designed and implemented a console-based inventory management system with add, update, search, and reporting features.
- Applied object-oriented programming (OOP) principles using Product and Inventory classes.
- Utilized dynamic vectors to manage 1,000+ items efficiently.
- Improved user interaction efficiency through a structured menu-driven interface.

WORK EXPERIENCE

Production Assembly Operator – Randstad

September 2020–December 2021

- Supervised 5 – 7 production line workers and optimized material flow, improving workflow efficiency by 15% and ensuring on-time delivery of products.
- Trained Staff in safety and quality standards, reducing incidents by 25%.
- Operated and maintained CT machines, reducing downtime incidents by 20 %

LEADERSHIP EXPERIENCE

University of Houston Programming Club – Member

January 2024 – Present

- Led C++ workshops and collaborative problem-solving sessions for 50+ students.