

# 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  $R^2$ , cross-validation, and error metrics.
- Achieved an  $R^2$  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.