Henok Fisseha

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Education

Williams College — Williamstown, MA
Bachelor of Arts in Computer Science — GPA: 3.98 — *Sep 2021 – June 2026*

Technical Skills

Languages: Python, Java, C/C++, JavaScript, F#, Golang, HTML/CSS, R
Frameworks: React, Node.js, Flask, Material-UI
Developer Tools: Git, Google Cloud Platform, Firebase, Jupyter Lab
Libraries: pandas, numPy, matplotlib, scikit-learn

Experience

Software Engineering Intern — May 2025 – Present
ENSCO Rail — *Vienna, VA*

- Developing a proprietary Optical Recognition algorithm in **Python** for alphanumeric character detection on images captured under adverse conditions and integrating into **C++** based client facing product
- Developed a **Python** labeling tool with a complete UI to simplify character box drawing and labeling
- Led the end-to-end development process in an Agile environment—using Jira to manage tasks, from gathering business requirements up until developing the algorithm and testing on ENSCO's proprietary image dataset.

Software Engineering Intern — May 2024 – August 2024
Klear Inc. — *San Francisco, CA*

- Engineered a full-stack insurance integration prototype using **Python Flask**(back end) and **Jinja2**(front end), enabling Allianz's API services within Klear Inc.'s flagship financial platform for **200+** enterprise clients
- Implemented asynchronous job polling and token-based authentication using threading and timed refresh strategies to manage secure, long-lived API sessions
- Optimized front-end performance by **25%** by restructuring Flask route handling, minimizing redundant API calls, and leveraging lightweight JSON payloads for dynamic template rendering

Software Development Assistant — May 2024 – August 2024
Williams College Robotics Lab — *Williamstown, MA*

- Engineered core backend components of Conversation, an interactive 3D modeling software designed for college course instruction, later deployed in a classroom setting
- Implemented geometric drawing rules into the software using **C++**, applying vector mathematics and 3D coordinate transformations to support interactive sketching features.
- Contributed **300+** lines of code to an established codebase including:
  - **Offset Copy Tool:** Enabled duplication of lines/arcs by a specified vector offset
  - **Division Point Tool:** Added equidistant division points on lines and arcs

Projects

ArtScript | *F#, Functional Programming* — March 2024 – May 2024

- Designed and implemented a domain-specific language (DSL) in F# using functional programming principles
- Implemented custom parser combinators to support commands for procedural drawing (e.g., lines, shapes, loops)
- Engineered a multi-stage interpreter pipeline including lexing/parsing, AST construction, and recursive evaluation
- Developed geometry-based evaluation logic to handle 2D coordinate transformations and directional shifts

SpotiVibe | *Full-Stack Web Application (Vite + React, Express, Firebase)* — May 2025 – June 2025

- Built a secure HTTPS backend using Express.js with modular routing for user, forum, and inbox services
- Developed a responsive frontend with Vite and React, implementing dynamic routing and profile editing features
- Integrated Firebase Admin SDK for user data management and real-time updates
- Implemented Spotify OAuth token parsing and access control for seamless user authentication
- Worked in a team of four to complete a first version within one week