

# BINIYAM GEBREYOHANNES

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## EDUCATION

University of Washington, Seattle

Expected Graduation Date: June 2026

*B.S. in Computer Science*

- **Relevant Courses:** Data Structures & Parallelism, Distributed Systems, Algorithms Design, Object Oriented Design and Programming, Linear Algebra, Web Applications, Software development, Distributed, Multi-Tiered Systems
- **Organizations and Awards:** ColorStack, NSBE, Google Generation Scholar, David & Cathy Habib Scholarship

## TECHNICAL SKILLS & SOFTWARE PROFICIENCIES

**Languages:** Python, Java, C#, C++, Linux, Unix, Relation Database (MySQL), TypeScript, JavaScript, HTML, CSS, React

**Tools/ Technologies:** Amazon Web Services, EC2, S3, PyTorch, LLaMA, Git, OpenCV, Custom Vision, Pandas, Matplotlib, Agile

## EXPERIENCE

Software Engineering Intern, STEMTAC

January 2024 – June 2024

- Led a **20-member** team through two phases, each lasting two months, to reengineer facial recognition software using **Python**.
- Engineered a face detection model using **OpenCV** and **YOLOv8**, training on a dataset of over **5,000** images, achieved a **25%** improvement in accuracy and reduced false positives.
- Implemented rigorous testing protocols, improved system software development, scalability and processing efficiency.

Undergraduate Research Intern, University of Washington

June 2024 – August 2024

- Analyzed 12+ months of electricity usage data from 141 mini-grid customers using Python, clustering machine learning algorithms, and **nonlinear optimization** techniques to identify consumption patterns, more than doubling forecasting reliability.
- Built predictive time-series machine learning model leveraging **data mining** to forecast energy demand trends with **82% accuracy**.

Computer Programming I, Teaching Assistant

September 2023 - December 2023

- Resolved **50+** complex coding challenges, with a primary focus on debugging **Python** code and optimizing solutions.
- Coached **33** students in **Python**, leading to an average improvement of 20% in course assessments while emphasizing **object-oriented design** principles and teaching computer science fundamentals.

## PROJECTS

StockWise: AI-Powered Investment Insights

September 2024 - Present

- Founded **StockWise**, an AI-powered platform that providing real-time sentiment analysis on financial news to help investors make more informed decisions with automated alerts based on market data.
- Implemented the **LLaMA** model for sentiment analysis and integrated the **Robinhood API** to track user portfolios, delivering **5+** personalized alerts per day via email and reducing decision-making time by **40%**.
- Organized a team of 4 engineers to build a scalable web platform using **React.js**, achieving **99.9%** uptime during testing and currently in the process of preparing for deployment on **AWS** for public access.

Team Productivity Bot

August 2024

- Built a **Python** application to enhance team productivity by automating routine tasks and facilitating articulate collaboration.
- Integrated an **AWS EC2** instance with a live Discord server, using the **EC2\_metadata API** to **query** data and automate over **20+** routine tasks per day, reducing manual interventions by **90%** and improving task management for a **16-member** team.

Task Management Web App

May 2024

- Designed a web-based task management app using **React.js** and **RESTful APIs**, which automated **20+** daily tasks and increased team productivity by **40%**.

Weather Manager App

- Developed a **Java** application to process large-scale weather data, optimizing computation time and predicting temperature.
- Processed **1** million rows of weather data using **binary search algorithms**, improving efficiency from **O(n)** to **O(log n)** and reducing computation time by **99%**. Implemented a linear regression model to predict temperature variations for **100+** cities.

## ACTIVITIES & LEADERSHIP

Secretary, Ethiopian Youth Community

(September 2023 – Present)

- Committed to raising **\$2000** for a community space renovation and successfully organized fundraising efforts to support the project.
- Directed innovative outreach programs, increasing youth engagement through coding boot camps and entrepreneurship workshops.

Team Manager, LSAMP

(January 2022 – Present)

- Led workshops on professional development, demonstrating patience and clear communication to guide underrepresented STEM students.