

# AIMA ALAKHUME, BSc, MSc, CBAP

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## SUMMARY

Skilled product designer and software engineer adept at building interactive systems to minimize mental strain and decision fatigue.

## EDUCATION

**Cornell University (Cornell Tech)**, New York, NY Aug 2024–May 2026

*Dual Master of Science in Information Systems & Applied Information Science* | GPA: 3.8

**New York University**, New York, NY

Sep 2019–May 2023

*Bachelor of Science in Electrical Engineering* | GPA: 3.4

**Honors/Awards:** NYU Tandon School of Engineering Dean's List (August 2021)

## PROFESSIONAL EXPERIENCE

**Freelance Mobile App Developer** Aug 2025- Present

- Engineered a secure authentication system for a React Native app, handling login, registration, and secure session management.
- Developed a robust authentication flow using JWTs and encrypted storage, ensuring persistent sessions and protected routes.
- Integrated API endpoints with comprehensive error handling and utilized Redux for efficient state management of all authentication processes.

**Ignite Church NYC, Head of Enterprise Technology**, New York, NY

Oct 2023–Present

- Increased event attendance by 35% from Q4 2023 to Q1 2024 by optimizing Planning Center tools through data-driven decisions.
- Achieved 100% course completion rates by engineering an online delivery system using Teachable and custom styling.
- Enhanced website accessibility compliance by 40% (WCAG standards) by developing responsive UI components with JavaScript.

**Topron Consulting, Business & Data Analyst**, Remote, USA

Apr 2024–Aug 2024

- Led strategic planning by identifying market opportunities, resulting in actionable implementation plans.
- Ensured timely project delivery by leveraging Jira and Google Sites to implement business ideas and coordinate teams.
- Provided strategic recommendations to increase sales and improve product/regional performance by analyzing data with Tableau.
- Enhanced sales visualization through interactive dashboards, leveraging Figma for intuitive UI/UX design.

**Meta (via MLH), Production Engineering Fellow**, Remote, USA [\[GitHub Link\]](#)

May 2022–Aug 2022

- Developed a scalable web application with 99% uptime using Python, Flask, MySQL, Docker, and Nginx.
- Reduced deployment failures by 85% by crafting automated CI/CD pipelines with GitHub Actions and comprehensive test suites.
- Enhanced system observability by 70% by configuring monitoring tools, Prometheus and Grafana, for proactive issue detection.

## PROJECT & RESEARCH EXPERIENCE

**MedicalGuideBot**, *Cornell Tech Artificial Intelligence & Robotics Lab* (Python, React, Node, Express.js)

Aug 2024–Present

A robotic system using multimodal sensors and communication to track crash cart inventory, guide users to objects and reduce errors.

- Reduced item retrieval times by 33% by developing real-time inventory synchronization across Raspberry Pi4 clusters.
- Enhanced response readiness by cutting retrieval errors by 81.5% and lowering cognitive load by 52%, as validated by user testing.
- Improved data accessibility by creating REST APIs for real-time monitoring and data integration.
- Leveraged AI-assisted to rapidly implement usability improvements based on UX feedback, accelerating iteration cycles by 40%.

**Augmented Campus**, *Cornell Tech* (ARKit, Swift, Firebase)

Aug 2025–Present

An interactive AR experience platform designed to foster community on the Cornell Tech campus through location-based scavenger hunts.

- Developing a functional prototype with AR-based clue discovery and interaction using device cameras.
- Integrating campus-specific educational elements to enhance the understanding of campus resources and cultural diversity.
- Accelerated development by 50% by generating initial prototype and skeleton code with Figma AI.

**Mario's Coin Quest** (Python, ROS2) [\[GitHub Link\]](#)

Nov 2024–Dec 2024

An educational robotics game utilizing concurrent multithreaded programming and multi-sensory data processing for interactive gameplay.

- Engineered a hybrid architecture integrating reactive and deliberative systems using concurrent multithreaded programming.
- Optimized real-time data processing by 65% through parallel processing algorithms for multiple sensor inputs.
- Achieved 92% positive user experience ratings through responsive robot-human interaction system design.

**Sustainable Steps** (React, Node, MySQL, HTML, CSS) [\[GitHub Link\]](#)

Jul 2024

A web application designed to empower users to adopt sustainable practices via a waste sorting guide and community resources.

- Improved performance with a high-performance REST API with efficient data structures, achieving 50ms average response times.
- Enhanced UX by creating interfaces for waste logging, goal setting, and a gamified rewards system that drove user retention.

**Beyond the Algorithm**, *Google x BrainStation* (React, HTML, CSS) [\[GitHub Link\]](#)

Jun 2024

Award-winning web application showcasing educational elements within Google Search to foster user understanding and trust in AI.

- Improved user trust in AI by collaborating with cross-functional teams to create interactive displays and educational content.
- Enhanced search by conducting user research to identify optimal placement of educational content and interactive features.

SELECTED RELEVANT PROJECTS

Web Clone Engine (Next.js, TypeScript, Python) [\[GitHub Link\]](#) Jun 2025

A full-stack web application that scrapes websites for design context, and uses the Anthropic LLM to replicate the websites in HTML.

- Engineered a responsive, modern frontend with Next.js, TypeScript to provide an intuitive user interface for the process.
- Developed a backend that scraped target sites in less than 5 minutes and achieved a full website rebuild in under 10 minutes.
- Implemented advanced prompt engineering techniques to optimize LLM output quality, achieving 90% design accuracy in automated website replication.

Mental Health Logistic Regression Predictor (Python, Sklearn, Pandas) [\[GitHub Link\]](#) Apr 2025–May 2025

A machine learning web application for early depression risk assessment and personalized support, deployed to provide actionable insights.

- Improved depression risk prediction by developing ML models and deploying Logistic Regression, achieving 82% test accuracy.
- Maximized model performance by implementing a robust data preprocessing pipeline, contributing to 82% test accuracy.

EcoTails (Swift, Xcode) [\[GitHub Link\]](#) Dec 2022–Mar 2023

A Swift-based augmented reality virtual pet game that incentivizes users to engage with local recycling efforts.

- Increased user engagement by 60% by implementing immersive UI design and leading art direction for the virtual pet game.
- Enhanced environmental awareness by implementing augmented reality features with iOS ARKit that gamified recycling efforts.
- Improved user retention by designing gamification features that incentivize users to engage with local recycling initiatives.

TECHNICAL SKILLS

Game Design & Development: Unity, SwiftUI, AR/VR

Programming Languages: Python, JavaScript, TypeScript, HTML/CSS, SQL, C++, C#, Swift, C

AI/ML: LLMs, Prompt Engineering, Web Scraping, TensorFlow, Scikit-learn, Computer Vision, Deep Learning, ROS2

DevOps & Tools: Git, GitHub Actions, CI/CD, Docker, Unix, Bash, Nginx, Linux, Figma, JIRA, Tableau, Jest, Version Control, SDLC

Backend: Express.js, Flask, REST APIs, PostgreSQL, MySQL

Frontend: React.js, React Native, Node.js, Next.js, Material UI, ES5/6, Tailwind CSS, Responsive Design

Product Management: Agile/Scrum, User Research, Product Roadmapping, Risk & Stakeholder Management, Usability Studies

LEADERSHIP EXPERIENCE

Cornell Tech Student Government, Connective Media Program Rep, New York, NY Aug 2024–May 2025

- Advocating for student interests with department leadership and synthesizing feedback to drive program initiatives.

Black Cornell Tech Student Association, Vice President, New York, NY Sep 2024–Present

- Organizing community-building events, mentorship programs, and cultural exchange activities.

CERTIFICATIONS

- Google Data Analytics Professional Certificate (Apr 2024)
- Certified Associate in Project Management (in progress)
- IIBA Certified Business Analysis Professional (Jun 2024)
- BrainStation Artificial Intelligence Certification (in progress)