FADHIL LAWAL

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EDUCATION

Vanderbilt University	Bachelor of Engineering, Electrical & Computer Engineering	May 2028
	Minor: Computer Science, Legal Studies	
	GPA: 3.93	

TECHNICAL SKILLS

Languages & Frameworks: Python, JavaScript, C++, Java, HTML/CSS, React, FastAPI, Django
Tools & Platforms: Git, AWS EC2, Supabase, OpenAI API, Gmail API, VSCode, Arduino IDE, PlatformIO, kiCad, ESP32, Microsoft Office

PROJECTS

ESP32-Based Remote Vehicle with Live Video Streaming — May 2025 – June 2025

- Built ESP32-based remote-controlled vehicle with dual-voltage power system, dual DC motor control, real-time video streaming, ultrasonic obstacle detection with audio alerts, IMU telemetry, servo-controlled steering, and web-based control interface
- Programmed C++ firmware enabling UART communication, WebSocket protocols, collision avoidance, and smooth motor control
- Designed electrical schematic and compact custom PCB in KiCad, reducing system size by 40% compared to breadboard prototype

Larynx AI - Personalized Email Assistant for Small Businesses — June 2025 – July 2025

- Built full-stack AI email assistant with FastAPI, Supabase, and GPT-4 to draft Gmail replies mirroring users' voice, tone, and brand
- Implemented secure Gmail OAuth2 integration with real-time inbox polling and dynamic draft injection, leveraging structured user data, scraped user website content, and uploaded inventory to generate tailored, intelligent, inventory-aware responses
- Developed and deployed responsive React frontend for managing email settings, uploading inventory, and configuring AI-generated response behavior; launched full-stack system on AWS EC2 with custom domain for global access and reliability

Transfer Tracker - Global Soccer Transfer Monitoring Platform — July 2023 – September 2023

- Built global soccer transfer tracking site using Python with Django and HTML/CSS/JS; hosted on AWS EC2 and served 150+ users
- Automated transfer data collection for 125K+ players and 4K+ clubs using custom Python web scrapers, eliminating manual entry

EXPERIENCE

University of Houston – Research Intern — June 2023 – August 2023

- Programmed Python-based vehicle routing algorithm that outperformed Dijkstra's algorithm in select suburban benchmarks
- Simulated traffic networks using SUMO and TraCI, leading to a 6.3% increase in route efficiency through optimized traffic flow
- Trained convolutional neural network on CIFAR-10 dataset, achieving 85% accuracy via hyperparameter tuning and augmentation

Genius Terminal – Co-Founder — September 2022 – June 2023

- Led four-week HTML/CSS course for 40+ students across 9 communities, improving technical literacy and web development skills
- Ran eight-week technical program in C++, Arduino, and game design for 25+ underrepresented youth, increasing STEM interest
- Developed 10+ slide decks, 25+ interactive coding assignments, and 3 collaborative capstone projects to enhance engagement

Infinity Phone Repair – Operations Assistant — June 2021 – August 2022

- Diagnosed electronics damage (phones, laptops, etc) and repaired 45+ software and hardware issues for clients on a weekly basis
- Designed client-facing system for repair and warranty tracking—automating data entry and reducing turnaround time by 11%

iCode Computer Training School – Lead Instructor — March 2023 – May 2024

- Taught 50+ students programming through weekly project-based lessons and interactive coding exercises; implemented pre- and post-course surveys to assess instructional effectiveness, increasing student proficiency in programming languages by 40%
- Redesigned trial class curriculum with gamified programming tasks to boost engagement, increasing after-trial enrollment by 30%

LEADERSHIP EXPERIENCE AND ACTIVITIES

National Society of Black Engineers Vanderbilt Chapter – PR Chair/Telecommunications — August 2025 – Present

- Manage social media, external communications, and outreach campaigns promoting NSBE events and opportunities to students

National Society of Black Engineers Vanderbilt Chapter – Freshman Representative — October 2024 – May 2025

- Represented Class of 2028 in NSBE leadership; collaborated with board members to plan 10+ workshops, mixers, and hackathons

HONORS

- Posse Foundation Full-Tuition Leadership Scholar — December 2023 – Present