JOSH GOPAUL

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EDUCATION

Master of Science in Computer Science **August 2024 - April 2026**

Florida International University (FIU); Miami, Florida | GPA: 3.90

- Graduated with Summa Cum Laude (First Class Honors)

Bachelor of Science in Computer Science with Management **August 2020 - September 2023**

University of the West Indies St Augustine (UWI); Trinidad and Tobago | GPA: 3.40

- Graduated with Second Class Honors

SKILLS

Programming Languages: Python, Java, C, C++, Swift, Kotlin, HTML, CSS, TypeScript, JavaScript, SQL.

Software Development: Next.js, React, Node.js, Bun, FastAPI, Tailwind, PostgreSQL, Supabase, Firebase, Git, Vercel, Render, Resend.

Artificial Intelligence & Machine Learning: PyTorch, LLM Integration (Ollama), Computer Vision (YOLO, MediaPipe), Time-Series Forecasting.

PROFESSIONAL EXPERIENCE

City Of Coral Gables | Coral Gables, Florida **January 2026 - April 2026**

Software Engineer

- Developed a 3D interactive weather visualization web app for Coral Gables using JavaScript, ArcGIS Maps SDK, Vite, and live weather APIs to render inverse-distance-weighted temperature and wind grids with forecast, historical playback, and split-screen comparison modes.
- Built as a city-facing environmental analytics tool, with planned deployment by the City of Coral Gables and future support for live sensor telemetry and carbon sequestration data.

Florida International University (FIU) | Miami, Florida **August 2025 - April 2026**

Machine Learning Research Assistant

- Built a reproducible Python research pipeline using a 1,902-firm WRDS/Compustat quarterly panel from 2010–2024 and benchmarked five forecasting models: ARIMA, ETS, Prophet, Amazon Chronos-Bolt, and MOMENT; Chronos-Bolt ranked first overall and outperformed ARIMA by approximately 28% MAE.
- Implemented a structural-break and nonlinearity testing framework using RLS-CUSUM, Zivot-Andrews, BDS/NLI, ARIMA residual whitening, and cross-sectional OLS, then deployed three interactive dashboards using Node/Express, FastAPI with Docker, and React/Vite to operationalize the research workflow.

INIT Build | Miami, Florida **August 2025 - December 2025**

Software Engineer

- Led backend and database development for a SwiftUI iOS marketplace designed for FIU's 50,000+ student community, coordinating team progress during a critical leadership gap.
- Designed and implemented the Supabase backend, including PostgreSQL schema, relational constraints, Row Level Security policies, authentication, marketplace listings, saved items, user profiles, and real-time one-to-one chat.

PROJECTS

Gopaul Autonomous Advanced Artificial Intelligent Agent (GAAIA) | Miami, Florida **December 2025 - June 2026**

- Architected a privacy-first AI platform running entirely on local hardware, featuring an 18-model routing engine to score each request and auto-select the optimal LLM, with a RAM-aware fallback layer substituting smaller models and tuning inference parameters under memory pressure.
- Integrated real-time computer vision (YOLOv8 object detection, MediaPipe pose tracking, ArcFace face recognition), a local voice pipeline (Whisper transcription, Kokoro speech synthesis, neural speaker identification), and multi-modal generation across images, music, and Office/PDF documents.

Google Storm (ShellHacks) | Miami, Florida **September 2025**

- Directed a team to create a "Waze for Community Help" platform pairing the Gemini API with Google Maps to surface nearby shelters, food banks, and free clinics in real time, with a multilingual conversational chatbot (English/Spanish) and an Emergency Mode prioritizing safe routes during disasters.
- Engineered a Next.js + Firebase Firestore stack with WebSocket-based live updates and AI-moderated community contributions, enabling NGOs to publish verified resources and users to receive synchronized data across devices.

ACTIVITIES & INVOLVEMENT

Student Grader **September 2025 - December 2025**

Florida International University (FIU); Miami, Florida

- Graded assignments, exams, and projects for CGS4285: Applied Computer Networking and CAP4104: Human-Computer Interaction, covering networking concepts, protocols, system configurations, usability, interface design, and interaction principles.