ANDY ALVAREZ

Wellington, FL 33414 (Willing to relocate) (Open to Remote) | andydalvarez30@gmail.com
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TECHNICAL SKILLS

Front End | Angular, TypeScript, HTML, CSS, styled-components
Back End | Python, Typescript, NodeJS, PostgreSQL, TimescaleDB, Flask
Systems & Protocols | C/C++, GStreamer, WebRTC, Redis, State Machines
Testing/Deployment | AWS EC2, AWS API Gateway, AWS Lambda, Tailscale VPN
Developer Tools | Docker, Git, npm, Electron, DBeaver, Postman, Jira, Confluence, Agile Methodology, TDD

EXPERIENCE & PROJECTS

Embedded Systems Engineer, Project Lead | Guident Corp. — Jan 2024 - Present

IoT edge systems, Remote Monitoring and Teleoperation — C/C++ | Python | Angular | PostgreSQL | EC2

- Led end-to-end development and deployment of a public-facing Passenger Communication Module aboard 2 autonomous shuttles, serving 4,000+ passengers across 300+ hours of live operation; the system encompassed live two-way video/audio streaming, an onboard passenger UI, and an ad impression tracking backend
- Implemented the PCS streaming module in C++ using GLib, GStreamer, and WebRTC, achieving under 200ms glass-to-glass latency for live remote monitoring and two-way communication with passengers
- Built the PCS onboard UI using GTK/WebKitWebView to load a local Angular app displaying real-time bus stops, routes, ETAs, and rotating advertisements; implemented network-aware screen switching via the Mapbox API
- Designed and migrated multiple PoC schemas into the company's core PostgreSQL database; provided ongoing schema support for new feature development
- Built an IoT edge data pipeline on Redis Streams to collect and forward raw sensor telemetry (IMU at 100Hz, GPS at 50Hz, camera detections) to a remote server and local TimescaleDB instance with upload-retry logic; published parsed events downstream for other service consumers
- Led the C++ integration of a teleoperation system over TCP/UDP interfacing with an autonomous vehicle's ROS client; successfully demoed live remote vehicle operation at National Autonomous Vehicle Day to transportation industry leaders
- Presented and demoed products to customers, investors, and industry stakeholders; featured on NBC for the company's autonomous vehicle technology

Software Technology, Co-op | GE Appliances — Jan 2023 - April 2023

Embedded systems & iOS mobile development — C | Swift | Xcode

- Built and programmed a sumo bot in C on an Adafruit Metro M0 (IR sensors, ultrasonic sensors, DC motors, LEDs); placed 1st in final competition
- Implemented accessibility features for refrigerator and laundry appliances on the SmartHQ Home iOS App using Xcode and Swift
- Applied Agile, TDD, and MVP/VIPER design patterns in a professional software development team environment

EDUCATION

Florida International University - Master of Science, Computer Engineering, GPA 4.0 — 2024
Florida International University - Bachelors of Science, Electrical Engineering, GPA 3.52 — 2023