# SEBASTIAN ASIATICO

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## PROFESSIONAL OVERVIEW

Software Engineering student (penultimate year) with hands-on experience building full-stack and data-driven applications. Proficient in Python, C++, JavaScript, SQL, and web technologies (HTML/CSS). Eager to contribute to innovative teams in backend, frontend, or data science roles by combining technical versatility with a strong analytical mindset.

## PROJECTS

**Smart Thermostat Backend — AWS Serverless, IoT, DynamoDB**

- Built an event-driven IoT backend: Arduino Uno R4 → MQTT (AWS IoT Core) → Lambda for real-time processing; DynamoDB for durable device/environment state.
- Owned DynamoDB design/implementation: table modeling, conditional writes, TTLs, idempotent commands; ensured consistency and throughput under concurrency.
- Integrated AWS Bedrock Large Action Model to autonomously issue climate actions; exposed RESTful APIs with Swagger/OpenAPI.
- Added observability (CloudWatch) and reliability (rule-based decisions, retries/DLQs), reducing manual intervention and optimizing energy usage at pay-per-use scale.

**FGCU Map — Graph Algorithms, Dijkstra, Quicksort**

- Engineered a pathfinding app modeling campus as a weighted, directed graph; parsed CSV to map 30+ buildings with distance/speed metrics.
- Implemented Dijkstra with a priority queue for optimal routes by shortest distance or fastest time in $O((V+E) \log V)$.
- Added Quicksort for fast building lookup; built edge reconstruction for clear turn-by-turn directions; planned frontend visualization and SQL backing.

**Census Data Project — ML Pipeline, Model Benchmarking**

- Built end-to-end, reproducible ML pipeline on UCI Adult dataset to classify income (≤50K vs >50K).
- Preprocessing: imputation, one-hot encoding, scaling via ColumnTransformer; automated fetch via OpenML; stratified splits; reporting to ModelResults.csv.
- Trained/benchmarked kNN, Decision Tree, and multiple MLPs (varying depth/learning rate/iterations); evaluated Accuracy, Precision, Recall, F1-macro; produced confusion matrices and charts.
- Tech: Python, pandas, scikit-learn, seaborn/matplotlib.

**Portfolio Website — Responsive UI, Modern CSS/JS**

- Building a full-stack portfolio with responsive UI: interactive project carousel, tech showcase (10+ animated SVG icons), smooth-scroll navigation.
- Implemented custom JavaScript for scroll behavior, mobile menu, context-aware UI; modern CSS (Grid, Flexbox, gradients).
- Roadmap: complete remaining sections/deploy; add backend/API for contact workflows & validation.

## LANGUAGES & TECHNOLOGIES

- C++   • C   • Python   • JavaScript   • HTML/CSS   • SQL (PostgreSQL)

## EDUCATION

B.S, Software Engineering, Florida Gulf Coast University, Spring 2027