

Elio Rocha

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EDUCATION

The Catholic University of America

Bachelor of Science in Computer Science — GPA: 3.7

Washington, D.C.

May 2027

EXPERIENCE

Software Engineer Intern

June 2026 – August 2026

Leidos

Arlington, VA

- Reverse-engineered a formal specification of a legacy event-driven microservice framework serving **100+** microservices through engineer interviews
- Engineered a scripted LLM evaluation pipeline that scored the legacy framework against a **12**-criterion rubric, generating an evaluation report and a greenfield architectural proposal used as the blueprint for development
- Executed a phased, test-driven development plan of a **19,000-line** Python framework from the greenfield spec, directing an LLM through the plan and vetting each phase via code review and a **1,000** test suite
- Validated the framework live against real backends (Kafka, NFS, ElasticSearch, OpenTelemetry, Prometheus) by building and deploying **3** containerized workers via Docker to process live messages through a pipeline
- Shipped a real-time observability dashboard with HTML/CSS/JS over a FastAPI backend, visualizing live message flow and per-worker framework utilization

PROJECTS

Cardinal Calendar | *Python, Flask, JavaScript, PostgreSQL, Git*

[GitHub](#)

- Led the backend development for an AI-powered academic planning web app that generates personalized semester schedules to help students plan upcoming semesters
- Engineered GPT-5 structured outputs using Pydantic schemas to enforce strict data extraction for user constraints, ensuring **100%** type-safety between the LLM and the PostgreSQL database
- Developed an automated web scraper using Selenium to harvest **1200+** course records, normalizing unstructured data into a relational PostgreSQL schema
- Built a secure authentication system by implementing Bcrypt, utilizing hashing verification to safeguard account access for Cardinal Calendar

Oura Health Analytics | *Python, FastAPI, PostgreSQL, Git*

[GitHub](#)

- Engineered a multi-stage ETL pipeline in Python that extracts, transforms, and loads **500+** Oura Ring biometric records across **5** health domains into PostgreSQL
- Architected a dual-layer PostgreSQL schema (raw + processed) using SQLAlchemy ORM, computing **7** custom composite health scores derived from Oura's physiological metrics
- Developed a FastAPI REST API with **15+** endpoints serving date-range queries, 7-day rolling trend summaries, and AI-generated health reports with Pydantic-enforced structured outputs

FlowGoAI | *Python, Django, Django REST Framework, Git*

[GitHub](#)

- Architected a Django-based backend during a 24-hour hackathon to process uploaded audio files for transcription and summarization with AI
- Integrated AssemblyAI API to process audio files, storing results in Django models and managing data with serializers before sending it to the React frontend
- Developed RESTful API endpoints, file upload handling, and asynchronous transcription polling to support the React frontend
- Collaborated in a 3 person team using Git/GitHub for rapid iteration and debugging under time constraints

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, HTML/CSS, SQL, Bash

Frameworks & Libraries: FastAPI, Django, Flask, Pytest, Argparse, Selenium, Pydantic

Developer Tools: Git, PostgreSQL, Linux, Docker, Figma, Blender, Postman, OpenAI API, Gemini API, EC2

Relevant Coursework: Data Structures & Algorithms, Database Management, Cloud Computing, Web Design & Programming, Operating Systems, Object-Oriented Programming