Marcus Roldan

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marcusaroldan

Work Experience

Foward Deployed Software Engineer, Eden, Inc. Jan 2025 to present

- Architected and implemented end-to-end technical solutions for core MVP features, establishing foundational patterns for future product scaling and development.
- Spearheaded technical decision-making and system design, driving critical architectural choices that balanced rapid development with long-term maintainability.
- Developed innovative solutions by integrating open-source technologies with custom-built tools, creating efficient development workflows that maximized limited startup resources.
- Led strategic technical initiatives, contributing to both product development and technical infrastructure establishment.
- Established engineering best practices and development frameworks from the ground up, helping to build the technical foundation for the company.

Full-time Software Engineer Intern, Wishroute, Inc. – Portland, ME Jan 2022 to Aug 2022

- Worked cross-functionally with Operations and Technical team members to synthesize requirements for internal and customer-facing analytics dashboards.
- Built SQL queries to allow for efficient, scalable KPIs and designed clear, insightful dashboards.
- Contributed to product development and updates to Java backend infrastructure in an AWS serverless architecture.
- Participated in business strategy and product development discussions.
- Embraced a dynamic high-growth startup environment and demonstrated the ability to adjust responsibilities to align against business priorities.

Education

Khoury College of Computer Sciences at Northeastern University, BS in Computer Science, concentration in Artificial Intelligence Sep 2020 to Dec 2024

- Relevant Courses: Artificial Intelligence | Natural Language Processing | Software Development
- Honors and Badges: **GPA: 3.41 / 4.00** | Northeastern Global Work Citizen Badge | Dean's List
- Activities: Spanish Honors Society (Sigma Delta Pi), Transportation Engineering Club, Refugee and Immigrant Cross-cultural Conversation Partner Program, Computer Science Mentorship Organization

Projects

Personal Retrieval Augmented Generation System (Python, LangChain)

- Developed a Python-based Retrieval Augmented Generation (RAG) system using LangChain and OpenAI's GPT models, implementing vector similarity search with ChromaDB and HuggingFace embeddings to enable accurate document retrieval and contextual question answering.
- Architected a scalable document processing pipeline supporting PDF, HTML, and Markdown formats, utilizing NLTK and unstructured.io for text extraction, with intelligent chunking and batch processing to handle large document collections efficiently.
- Implemented a configurable command-line interface with YAML-based configuration management, allowing dynamic selection of LLM models, fine-tuning of embedding parameters, and customization of retrieval settings for optimal performance.

311 Infrastructure Issues Identifier (Prototype) (Python)

- Performed text-classification on reports of Illegal Parking to diagnose infrastructure issues around Boston.
- Classification strategy: fuzzy keyword matching, with a pipeline to refresh data from Boston's 311 API.
- Implemented interactive front-end using MapBox GL to visualize geospatial data and support data filtering.
- Collaborated with the Boston Cyclist Union's Data Science team for inclusion into upcoming data-dashboard.

Boston Integrated Cycle Route Engine (BICRE) (Python, Flask)

- Augmented functionality of Google Maps to create integrated (cycling and transit) routes.
- Incorporated Google's Directions/Geocoding APIs, Maps JS Library; MBTA API to create routes.

Skills, Tools, and Technical Knowledge

Python, React, Next.js, Git, v0, BuildShip, OpenAI API, SQL, AWS, NumPy, Pandas, Scikit-Learn, PyTorch, Matplotlib, Mapbox