

Karlos Alfonso

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SUMMARY

Computer Scientist with expertise in software development, data science and machine learning. Skilled in designing AI-driven solutions, automating workflows, optimizing search engines, and designing relational databases. Strong background in mathematical analysis and algorithm design.

PROFESSIONAL EXPERIENCE

Ticket TakeDown

Data Scientist / Backend Developer — June 2024 – Dec 2024

- Developed DAGs in Airflow to automate web scraping of traffic ticket websites.
- Integrated Typesense services to enhance the application's search engine.
- Conducted data analysis on the client acquisition process, driving data-based decisions and improving acquisition rates by 20%.

Devman Extensions

Backend Developer / Machine Learning Engineer — Apr 2024 – Oct 2024

- Led a team of developers in creating a chatbot API to assist with online shopping.
- Build API infrastructure from scratch, using FastApi.
- Optimized system performance through advanced algorithms and data structure refinement
- Integrated the database with the Typesense embedding-based search engine and OpenAI API to enhance search functionality.
- Implemented middleware using access tokens to improve security.

General Software Inc.

Backend Developer — Jan 2024 – Nov 2024

- Designed and implemented relational databases.
- Developed third-party services to enable seamless communication between systems, enhancing functionality and user experience.
- Reviewed and validated code from other developers to ensure quality and adherence to best practices.
- Integrated Amazon Cognito for authentication, improving user access security and scalability.

EDUCATION

University of Havana

BSc in Computer Science — Sep 2018 – Dec 2023 | GPA: 3.5/4.0

Key Courses: Distributed Systems, Compilers, Data Structures and Algorithms Design and Analysis, Simulation, Artificial Intelligence and Machine Learning, Databases and Software Engineering

PERSONAL PROJECTS

IMDB Corpus Analysis

Jun 2023 - Jan 2024

- Designed and validated a non-tabular data corpus for bias detection in general domain texts, improving model accuracy in machine learning applications.

Autopilot

Oct 2022 - May 2023

- Simulated a taxi agency using AI algorithms to determine routes, driving strategies, and genetic algorithms for simulation parameter optimization.

SKILLS

Programming Languages: Advanced in Python, C#, SQL | Intermediate in C++, C, Haskell & Prolog, LaTeX

Technical Expertise: Databases | Software Development | AI & Machine Learning | Data Analysis | Data Structures & Algorithms

Tools/Technologies: Docker | Git | Pandas | Tensorflow | Scikit-Learn | Keras | Typesense | PostgreSQL | SQLAlchemy | Firebase | Playwright | FastAPI | Django | Dash | Airflow | Entity Framework | AWS | REST APIs

Languages: Spanish (Native) | English (Intermediate)