

# Jesús Vélez Santiago

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## SUMMARY

Python Machine Learning Engineer with over four years of experience, specializing in developing and deploying innovative AI solutions. Expert in creating dynamic, AI-driven content and optimizing data pipelines for performance and scalability. Proven track record in solving complex problems, enhancing user engagement, and ensuring data integrity across diverse projects.

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## EXPERIENCE

### Python Software Developer and Machine Learning Engineer

uDocz

June 2023 – Present, Remote

- Developed and deployed a Retrieval Augmented Generation (RAG) system, managing almost 1 million documents through integration of Python, Langchain, FastAPI, Postgres, and Redis, along with leveraging open-source embedding models.
- Engineered real-time, AI-powered flashcards and quizzes tailored to the content of documents, enhancing interactive learning experiences.
- Synthesized and optimized document summaries for both SEO and public engagement, ensuring content accessibility and visibility.
- Orchestrated and maintained data engineering pipelines, ensuring continuous data integrity and system observability with Airflow and DBT.

### Machine Learning Engineer

Wannabe

September 2022 – June 2023, Remote

- Built automated infrastructure for efficient service deployment, allowing developers to focus on product development 100% and reducing infrastructure cost by 75%.
- Proficient in GraphQL API development using TypeScript, NestJS, and Apollo Tracing for performance optimization, reducing the error rate by 90%.
- Applied containerization and deployment with GitHub Actions, Docker, and Kubernetes and database design and optimization using PostgreSQL, going from a fully manual deployment (0%) to a wholly automatized deployment (100%).
- Data modeling, storage, training, and deployment of machine learning models.

### Data Analyst

Platzi

January 2022 – July 2022, Remote

- Utilized MetaBase and Apache Superset to create dashboards with key performance indicators (KPIs) that resulted in a 25% improvement in the accuracy of business decisions based on data insights rather than assumptions.
- Conducted comprehensive modeling and data analysis from various sources such as Amazon Redshift, PostgreSQL, and Tinybird to develop new course evaluation metrics that resulted in a 40% increase in the ability to identify areas for course improvement and intervention.
- Optimizing databases to improve response times, resulting in a 50% decrease in the time required to extract data for analysis and enabling faster data processing for efficient data analysis and decision-making.

### Bioinformatics Specialist

La Jolla Institute for Immunology

October 2021 – January 2022, San Diego, California, United States

- Automation of data cleaning, normalization, and preparation processes by 100% for pre-defined single-cell analysis pipelines.
- Automation of data visualization and generating experiment reports by 100% by allowing researchers to perform a self-exploration of the data, reducing the iteration time considerably.
- Creation of documented and tested internal code libraries for single-cell analysis that allow their reuse in new projects.

### R Software Developer

Heidelberg University

August 2020 – June 2021, Heidelberg, Baden-Württemberg, Germany

- Developed and tested software across multiple operating systems, resulting in a 90% increase in overall code quality. Measured by code coverage, unit testing, and reduction of bugs by implementing the test-driven development methodology.
- Reduction of the acceptance time (by approximately 83%) of the software in Bioconductor, going from three months to just two weeks.
- Implemented more than ten statistic algorithms to extract biological signatures from prior knowledge within a unified framework.

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## CERTIFICATIONS

### Data Scientist – Professional

DataCamp · 2021

- This certification is highly relevant as it verifies that the candidate possesses the essential knowledge, skills, and abilities required to excel in a Data Scientist role, such as data management, exploratory analysis, statistical experimentation, model development, coding for production environments, communication, and reporting, which were assessed through challenging timed assessments and a comprehensive practical exam graded by experienced data scientist experts

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## SKILLS

**Tools & Technologies:** Javascript, Typescript, R, Python, NestJS, NextJS, FastAPI, PyTorch, GraphQL, SQL, NoSQL, PostgreSQL, Amazon Redshift, Redis, Metabase, Apache Superset.

**Industry Knowledge:** Extract, Transform, Load (ETL), Machine Learning, Natural Language Processing (NLP), Large Language Models (LLMs), Data Science, Software Development, Data Visualization, Data Analysis, Statistics, Bioinformatics, Bilingual Communications, Retrieval Augmented Generation Systems.

**Interpersonal Skills:** Communication, Collaboration, Problem-solving, Critical thinking, Creativity, Adaptability, and Time management.