

BRAYAN DAVID ZULUAGA MELÉNDEZ

Cali, Colombia | +57 323 760 7583 | thezulux24@gmail.com
linkedin.com/in/brayanzz24 | bzuluaga.site



PROFESSIONAL PROFILE

Systems and Computer Engineering and Business Administration student at Pontificia Universidad Javeriana Cali, with experience in software development, process automation, data extraction, and the design of technological solutions for business, consulting, and research needs.

I specialize in computer science applied to software development, with strong logical thinking, abstraction skills, and the ability to structure technical solutions for complex problems.

I have worked on optimization algorithms, data extraction processes (scraping), database analysis and structuring, and the implementation of artificial intelligence models, integrating these capabilities into functional, scalable, and results-oriented solutions.

I have worked with organizations in the healthcare, dentistry, transportation, and data analysis sectors, developing management platforms, web applications, and automation solutions using technologies such as Python, C, C++, JavaScript, React, Angular, NestJS, PostgreSQL, Supabase, and Playwright. I have also participated in academic and social initiatives, contributing through software development, metrics tracking, and educational support.

EXPERIENCE

Data Engineer – Market Intelligence

PROESA – Universidad Icesi (Consulting Project)
Hybrid, Cali

May 2026 – Present

Contributed to the design and development of a scalable market intelligence platform supporting research initiatives for PROESA in collaboration with the World Bank. The project focuses on building automated data pipelines capable of extracting, validating, standardizing, and delivering large-scale commercial data from retailers across Latin America for research and evidence-based decision making.

- Designed and implemented scalable ETL pipelines to collect, process, and standardize commercial data from multiple retail websites across Latin America.
- Developed a high-performance HTTP-only scraping architecture using Scrapling, significantly improving execution speed while overcoming advanced anti-bot protection mechanisms.
- Built automated workflows for data cleaning, normalization, deduplication, and quality assurance, producing analysis-ready datasets.
- Integrated Large Language Models (Gemini API) to automate product validation, attribute extraction, and information standardization across heterogeneous data sources.
- Implemented automated monitoring and notification services using Resend, providing execution reports, extraction alerts, and data quality monitoring.
- Developed reusable software components and modular architectures to improve maintainability, scalability, and future expansion of the platform.

- Produced technical documentation and implementation guidelines to facilitate knowledge transfer and long-term maintenance of the solution.
- Contributed to the development of the Universal Data Suite, a reusable platform for large-scale market intelligence and data collection projects.

Technologies: Python, Scraping, SQLite, Pandas, Gemini API, Resend, ETL Pipelines, HTTP Scraping, Data Engineering

Automation, Data Extraction, and Applications Developer

Knowten

March 2026 – Present

Remote, Bogotá

Focused on the architecture and development of the company's core applications, alongside designing robust systems for large-scale data extraction across the internet, ensuring operational efficiency and workflow automation.

- Designed and structured the application architecture to support scalable and maintainable company software solutions.
- Built a functional scraper capable of automating the large-scale download of posts from X (Twitter) and other web sources.
- Optimized data extraction workflows to significantly improve execution times and operational stability.
- Implemented adaptable solutions to efficiently handle advanced navigation restrictions and platform changes.
- Delivered robust code within fast-paced timelines, aligning backend structure with business requirements.
- Structured internal processes to support future extensions and adjustments to the data extraction systems.

Technologies: Python, Playwright, Node.js, Next.js, software architecture

Full Stack Software Developer

Design Factory, Pontificia Universidad Javeriana Cali – Project for Implameq

July 2025 –

September 2025

Remote, Cali

Developed a functional prototype of an integrated management platform for Implameq, a company in the surgical implementation sector. The solution included commercial, administrative, operational, and execution modules aimed at centralizing internal processes and improving operational traceability.

- Developed a functional solution aligned with the objectives defined for the project's main modules.
- Designed a clean and intuitive interface to facilitate adoption by non-technical users.
- Organized the platform's functional structure to support different administrative and operational processes within a single environment.
- Delivered a consistent and navigable prototype useful for functional validation and subsequent decision-making.
- Prioritized speed of implementation, technical clarity, and maintainability.

Technologies: Angular, Supabase

Full Stack Software Developer

Campus Nova, Pontificia Universidad Javeriana Cali – Project for Dentar

October 2025 –

November 2025

Remote, Cali

Developed a management platform for a dental group, with features focused on appointment scheduling, billing, sales follow-up, payments, and internal process control.

- Implemented key modules for business operations, integrating administrative, commercial, and operational processes into a single platform.
- Designed an organized and scalable backend architecture to support business logic.
- Modeled the database to consistently manage clinical, commercial, and financial information.
- Improved the centralization and traceability of internal processes.
- Delivered a functional solution within a short timeframe, maintaining technical order and implementation clarity.

Technologies: React, NestJS, Prisma ORM, PostgreSQL

Full Stack Software Developer

PEP Camiones

January 2026 – March 2026

Remote, Cali

Developed a commercial landing page and a management web application for one of the company's products. The solution made it possible to manage customer requests, subscribed plans, payments, cancellations, calendars, and service usage.

- Developed and launched a digital solution within a short period of time.
- Integrated the commercial and operational layers of the product into a single web ecosystem.
- Implemented features for customer, payment, plan, and service tracking management.
- Designed a solution aimed at facilitating administrative control and request organization.
- Delivered a functional platform, prioritizing business usefulness and speed to market.

Technologies: React, NestJS, Prisma ORM, PostgreSQL

EDUCATION

B.S. in Systems and Computer Engineering

Pontificia Universidad Javeriana Cali

2022 – 2027

Cali, Colombia

In progress

B.A. in Business Administration

Pontificia Universidad Javeriana Cali

2022 – 2027

Cali, Colombia

In progress

PERSONAL PROJECTS

Online Store

Personal project focused on developing an e-commerce solution oriented toward product management, user experience, and digital business operations.

Cross-Platform Finance Application

Development of a mobile application for personal finance management, built with Flutter and focused on recording, organizing, and visualizing financial information across multiple devices.

VOLUNTEERING AND NOTABLE CONTRIBUTIONS

Math Tutor and Web Application Developer – Colegio Santa Librada / Escuela de Líderes John Boris Rincón

I support training processes for students in the Escuela de Líderes John Boris Rincón program at Colegio Santa Librada, providing academic support in mathematics and strengthening analytical skills. In addition, I developed a web application for the program that allows the coordinating teacher to record attendance and arrival times of tutors for each grade level, while enabling tutors to track student attendance through the same platform.

Metrics Tracking Software for Juana Peláez's Swimming Challenge

Participated as a technical contributor in the education-focused challenge led by Juana Peláez and Abelardo. I developed the software used to measure and monitor metrics for both swimmers during a 12-hour continuous swimming session.

TECHNICAL SKILLS

Programming Languages: Python, C, C++, JavaScript

Frameworks and Development Technologies: React, Next.js, Angular, NestJS, FastAPI, Flutter, HTML, CSS

Databases and Persistence: PostgreSQL, Supabase, Firebase, Prisma ORM

Automation and Scraping: Selenium, Playwright, web automation, data extraction, request interception, GraphQL response analysis, information parsing, extracted data processing

Data Analysis: Pandas, Matplotlib, Excel, data cleaning, exploratory data analysis, information structuring and transformation

Other Tools: Git, solution modeling, business logic design, frontend-backend integration

LANGUAGES

Spanish – Native

English – B1

AWARDS AND RECOGNITIONS

John Boris Rincón School of Leaders Scholarship for Professional Education	2021
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REFERENCES

Personal

Juan Camilo Herrera Palacio

Economist and Applied Mathematician

Tel: +57 323 223 2313

Mail: camilo21098@gmail.com