Juan Camilo Restrepo

Data analyst and Data Scientist
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Profile Summary

I have recently completed the Computer Information Systems and Data Analytics Post Baccalaureate programs at Douglas College. With a background in theoretical physics and experience as a Math and Physics teacher, I bring a unique perspective to data-driven problem-solving and technical analysis. My skill set includes programming in multiple languages (Python, Java, SQL), a deep understanding of statistics, probability, machine learning, and AI (both theory and libraries), along with experience in database management (relational and non-relational), and data visualization using tools like Tableau and Power BI.

I am passionate about continuously learning in the fields of data science, AI, and software development, and I'm excited about opportunities to contribute my expertise to meaningful projects. I look forward to applying my skills in data analytics, data science, or software development to help drive impactful solutions for your organization.

Skills

Technical: •**Programming Languages:** Python, Java, JavaScript, C#. • **Statistical Analysis:** Hypothesis testing, regression, predictive modeling • **Databases:** SQL Server, MySQL, MongoDB (Relational and Non-relational DBMS) • **Machine Learning:** Scikit-learn, XGBoost, TensorFlow, Pandas, NumPy, SciPy. •**Data Visualization:** Power BI, Tableau.
Additional skills: Proficient in Microsoft Office Suite (Excel, Access), with strong collaboration and communication abilities. Committed to continuous learning and effective problem-solving. Demonstrated ability to work effectively in team environments and adapt to diverse business settings.
Languages: Spanish (Native), English (Fluent).

Education

Computer And Information Systems (PB Diploma) - Data Analytics | May 2022- August 2024 | Douglas College, New Westminster, BC
Relevant coursework:

- *Data Analytics & Machine Learning:* Fundamentals of Data Analytics (Python, Classification, Regression), Special Topics in Data Analytics (Big Data, Data Science Techniques), Fundamentals of Machine Learning (Python, ML libraries, Data Manipulation)
- *Database Management & Data Visualization:* Database I & II (SQL, NoSQL, MongoDB), Data Visualization (Tableau, Power BI)
- *Statistics & Forecasting:* Business Statistics I & II (Hypothesis Testing, Time Series, Predictive Analysis)
- *Software Development:* Full Stack Development (JavaScript, React, REST APIs), Software Engineering (Java, Spring Framework, Agile), Advanced Integrated Software Development (Java)
- *Programming & Web Development:* Data Structures & Algorithms (Java), Multimedia Web Development (HTML, CSS, JavaScript)

Physicist (BSc in Physics) | June 2017| Universidad del Valle, Cali, Colombia
Undergraduate thesis: "General Formalism of Gravitational Perturbations and Calculation of the Scalar Spectral Index in Slow-Roll Type Cosmic Inflation Models."

Additional Relevant Education
• Supervised Machine Learning: Regression and Classification - **DeepLearning.AI & Stanford University, Coursera**
• Cleaning Data in Python • Statistical Thinking in Python • Machine Learning with scikit-learn • Preprocessing for Machine Learning in Python • Analyzing Marketing Campaigns with pandas • Machine Learning for Marketing in Python • Building Recommendation Engines in Python • Unsupervised Learning with Python - **Data Camp**

Projects

Job Market Analysis in Canada (Web Scraping & Machine Learning):

- Scraped job postings from Google Jobs to analyze the current data science job market in Canada.
- Fine-tuned transformer models for Named Entity Recognition (NER) to extract key information from job descriptions (e.g., job titles, required skills, company names).
- Applied regression models to predict salaries based on job descriptions and market trends.
- Used Python libraries such as, Pandas, and Hugging Face transformers to process, clean, and analyze the data.

- Delivered insights into market demand for specific skills and salary expectations.

Energy Demand Forecasting Research (Machine Learning & Behavioral Analysis):

- Led research on integrating behavioral factors into machine learning models for energy demand forecasting.
- Conducted data collection, cleaning, and statistical analysis, exploring traditional and deep learning models.
- Focused on how behavioral patterns influence energy consumption predictions.
- Authored the research paper, presenting findings on the impact of behavioral data on forecasting accuracy.

Flight Price Prediction Model:

- Built a machine learning model using Python to predict flight prices based on historical data.
- Employed data preprocessing, feature engineering, and statistical methodologies to uncover hidden patterns.
- Visualized results using Matplotlib and evaluated model performance with various metrics.

Employee Productivity Analysis:

- Led a team to analyze employee productivity factors through hypothesis testing and regression analysis.
- Built visualizations and dashboards using Power BI to present insights.
- Utilized Excel for data processing and project management tools to ensure team efficiency.

Professional Experience

Bilingual High-school Physics Teacher | Redcol Holding, Colombia (August 2021 - March 2022):
- Innovatively implemented a comprehensive physics curriculum in English, introducing effective communication strategies that significantly improved learning outcomes.
- Conducted strategic segmentation of lesson plans to address diverse student needs, applying analytical and problem-solving skills.
- Achieved an 11% increase in average physics scores on national examination tests through a user-centric teaching approach.
- Collaborated seamlessly with a multidisciplinary team, showcasing strong teamwork and communication abilities.

Teacher and Academic Coordinator | Universidad del Valle (August 2017 - July 2018):
- Developed and documented educational guidelines, contributing to enhanced course understanding for both students and teachers.
- Orchestrated and executed innovative experiences and labs to facilitate better comprehension of course subjects.
- Applied an object-oriented approach to lesson planning for improved student engagement.

Physics and Math Teacher| Grupo Hermanos Pardo (January 2018 - August 2021):
- Provided dynamic leadership within the physics division, fostering a collaborative and results-driven environment.
- Conducted strategic data analysis to evaluate test reliability and relevance, contributing to data-driven decision-making.
- Employed data gathering and statistical analysis skills to ensure accurate evaluation, maintaining a detail-oriented approach to data collection and analysis.

Awards/Honors

Douglas College: Summer 2022 Honour Roll, Fall 2022 Honour Roll, Winter 2023 Honour Roll, Dean's List Fall 2023. Current Cumulative GPA 3.90.
Universidad del Valle: 5-time winner of the Award for Academic Achievement. GPA: 4.21/5.0