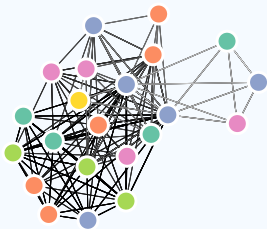


MARIANA ARBOLEDA

As an educator and researcher, I integrate data science, computational thinking, and equitable education to create meaningful learning experiences. I have led initiatives to help teachers incorporate data literacy and developed data-driven processes to evaluate multiple educational projects. My classroom experience enriches my data analysis work just as much as my involvement in projects enhances the relevance and impact of my teaching.



EDUCATION

current 2022	PhD., Education Universidad del Norte	📍 Barranquilla, Colombia
	<ul style="list-style-type: none">• Data Science Education• Advisor: Camilo Vieira, PhD	
June 2025 Aug 2024	Visiting Scholar University of Virginia	📍 Charlottesville, USA
	<ul style="list-style-type: none">• Fulbright scholar• Advisor: Jennifer Chiu, PhD	
2022 2019	MS Engineering Universidad EAFIT	📍 Medellín, Colombia
	<ul style="list-style-type: none">• Applying Machine Learning Models in sales forecasting• GPA: 4.78/5.0	
2016 2012	BS Production Engineering Universidad EAFIT	📍 Medellín, Colombia
	<ul style="list-style-type: none">• GPA: 4.64/5.0	

SELECTED PROJECTS

Present 2024	Instructional developer Charlottesville, VA, USA	📍 University of Virginia
	<ul style="list-style-type: none">• Designed lesson plans fostering data science with global perspectives.• Created instructional videos to guide educators in integrating data literacy into their practice.• Developed assessment tools to measure the effectiveness of instructional materials and track educators' progress.	
2024	Pedagogical coordinator and instructional developer Barranquilla, Colombia	📍 Universidad del Norte
	<ul style="list-style-type: none">• Coordinated a team of 5 experts to design 30 lesson plans and evaluations for the K-11 Colombian curriculum• Designed lesson plans introducing computational science, and data science, and artificial intelligence concepts through unplugged and technology-based activities	
2024 2022	Research assistant Barranquilla, Colombia	📍 Universidad del Norte
	<ul style="list-style-type: none">• Validating psychometric instruments for measuring Teacher well-being and socio-emotional learning of students from two different countries, and leading the report of quantitative results.	

View this resume online with links at [resume](#)

For a longer form version, see my [CV](#).

CONTACT

✉ marianaarboleda@uninorte.edu.co

🐙 github.com/marianaarboleda

🌐 marianaarboleda.github.io

in <https://www.linkedin.com/in/marianaarboledaf/>

LANGUAGE SKILLS



2023 2020	Leading Data Analyst Barranquilla, Colombia 📍 Universidad del Norte
	<ul style="list-style-type: none"> • Developed an innovative online visualization platform enabling seamless customization and download of charts, facilitating efficient data-driven analyses for the team. • Led a team of data analysts to collect, clean, and analyze program data, ensuring data accuracy and integrity for evidence-based decision-making. • Collaborated closely with other leaders and stakeholders, leveraging data insights to identify areas for improvement. • Pioneered the implementation of an automated evaluation process for a computational thinking maturity model.
2020	Assistant consultant Medellín, Colombia 📍 Universidad EAFIT
	<ul style="list-style-type: none"> • Worked closely with the client to ensure effective translation of their needs into the tool's features and functionalities • Created an intuitive user interface using Python's tkinter package for an electrical connections forecasting tool, enhancing user accessibility and usability. • Built a robust data processing pipeline, streamlining the input data for accurate forecasting and ensuring the tool's reliability. • Trained the client's in-house team on how to operate the application and interpret the forecasting results, facilitating seamless knowledge transfer and long-term usability.



SELECTED TEACHING EXPERIENCE

Dec 2023 Jan 2023	Mathematics Tutoring	Universidad del Norte - I.E El Cañahuate	📍 Barranquilla, Colombia
	<ul style="list-style-type: none"> • Providing tailored mathematics tutoring sessions to high school students, with a strong emphasis on statistics, probability, and data visualization • Instilling an appreciation for Mathematics and its practical applications, with a focus on real-world examples and relevance • Utilizing various teaching resources to enhance comprehension of statistical concepts and data representation while recognizing the environmental limitations 		
Dec 2023 Jul 2022	Computational Thinking for Everyone	Universidad del Norte	📍 Barranquilla, Colombia
	<ul style="list-style-type: none"> • Teaching Computational Thinking, Data Science, and Machine Learning fundamentals for multidisciplinary students • Implementing a design-based research approach to refine the program using evidence from the initial offerings 		
Nov 2021 Apr 2021	Computational Thinking for High School Level Students - Remote Learning	Universidad EAFIT	📍 Medellín, Colombia
	<ul style="list-style-type: none"> • Engaged students in beginner-friendly activities fostering the development of computational thinking skills • Encouraged collaborative learning through online platforms, creating an interactive and inclusive virtual classroom 		
Dec 2016 Jan 2014	English as Second Language for Children and Adolescents	Universidad EAFIT	📍 Medellín, Colombia
	<ul style="list-style-type: none"> • Participated in ongoing pedagogical training programs, continuously enhancing teaching techniques • Designed and implemented engaging, age-appropriate curriculum 		



SELECTED PUBLICATIONS, POSTERS, AND TALKS

2023

Opening the Machine Learning Black Box for Multidisciplinary Students: Scaffolding from GUI to Coding

2023 IEEE Frontiers in Education Conference (FIE)

College Station, TX, USA

- Arboleda, M., Vieira, C., & Chiu, J. L.
- Opening the Machine Learning Black Box for Multidisciplinary Students: Scaffolding from GUI to Coding
- DOI: <https://doi.org/10.1109/FIE58773.2023.10343043>¹

Interpreting Direct Sales' Demand Forecasts Using SHAP Values

Production



2023

- Arboleda-Florez, M., & Castro-Zuluaga, C.
- Interpreting direct sales' demand forecasts using SHAP values
- DOI: <https://doi.org/10.1590/0103-6513.20220035>²

2021

Sales Forecasting Difficulties' Analysis on Colombian Direct Sales Companies

In Proceedings of the International Congress of Industrial Engineering (ICIE2019)

Springer International Publishing

- Castro-Zuluaga, C. A., & Arboleda, M.
- Sales Forecasting Difficulties' Analysis on Colombian Direct Sales Companies
- DOI: https://doi.org/10.1007/978-3-030-49370-7_12³



SELECTED PUBLICATIONS

2025
|
2024

Fulbright scholarship - Estudiante doctoral colombiano

Fulbright Colombia

Colombia

- Awarded for academic excellence and leadership potential, as part of a highly competitive selection process supporting Colombian doctoral students in international research and study.

2022
|
2019

Full-Funded Research Project in Engineering

Universidad EAFIT

Colombia

- Awarded to fully support my master's degree in engineering, recognizing the quality and impact of my research proposal.

2016
|
2012

Bachilleres por Colombia Scholarship

Ecopetrol

Colombia

- Full scholarship for the entire undergraduate program

2015

Roberto Rocca Education Program Scholarship

Ternium, Techint Ingeniería y Construcción and TenarisTamsa

Colombia

- Awarded based on academic performance and a rigorous selection process

2014

Honorary scholarship for academic performance

Universidad EAFIT

Colombia

- Awarded for achieving the highest average score in my engineering program.



LINKS

1: <https://doi.org/10.1109/FIE58773.2023.10343043>

2: <https://doi.org/10.1590/0103-6513.20220035>
3: https://doi.org/10.1007/978-3-030-49370-7_12