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EdisonFlorez

Data Scientist — Business Analyst — Computational Physicist

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- linkedin.com/in/edisonflorez

Profile: 8+ years of experience specializing in statistical analysis, predictive modeling, data processing and mining algorithms. My passion lies in extracting insights from data through critical thinking and an understanding of underlying concepts. My background spans biotech startups and the financial industry,

creating, developing, testing, and deploying scalable and adaptive data pipelines to translate business into deliverables.

Interests:













Technical Skills:

Python MongoDB PowerBI - C/C++ - Git Excel Fortran Docker Linux - SQL AWS Bash

General Skills:

- Storytelling
- Agile Methodologies - Data Preparation
- Leadership Project Management
- Data Base structure
- Data Visualization
- Coach/Mentor

Professional Experience

- Data Scientist Aug.2021 - Aug 2023 HelicoBio [helico.bio], New Zealand
- Contributed to all phases of the software development lifecycle, development, testing, and deployment of new functionalities using Python and C++.
- · Collect and prepare data, extract insights, and create easy-to-understand visuals.
- Create and validate scalable data pipelines to advance plant biology research,
- Collaborate with cross-functional groups to design new functionalities and ensure their seamless deployment.

Achievement: This advancement reduced wet-lab workflows by 20%, significantly enhancing our understanding of protein function in the context of designing new proteins.

■ Freelancer Editor

Apr.2023 - Present Enago [enago.com] Apr.2018 - Dec.2018 MDPI [mdpi.com]

 Provide Copy Editing services, coherence, grammar and scientific terminology.

- Offer Substantive Editing, improving manuscript structure, clarifying ambiguous text, and verifying citation relevance.
- Guide authors in adhering to journal styles, and monitoring writing and editing activities to ensure content clarity.

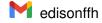
Achievement: This strategy enhances desk acceptance rates by over 30% in high-impact iournals.

■ Lab Assistant and **Demonstrator** Aug.2018 - Mar.2020

Massey University [massey.ac.nz], Zealand

- Provide instruction and guidance to students in workshops, focusing on intricate subjects such as advanced mechanics, thermodynamics, electricity, magnetism, and circuit analysis.
- Design the Standard Operating Procedures (SOP) for the Physics Lab, experiments and utilizing tools like Jupyter, Pandas, and Matplotlib for data analysis and report presentation.

Achievement: Improving students' comprehension of technical physical concepts and principles using interactive visuals and automating report generations using Python.







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- Data Scientist Aug.2016 Mar.2018 EY [ey.com], Colombia.
- Design tailored solutions through thorough business and technical analyses, primarily within SAP for Analytical Banking and Business Intelligence.
- Develop complex models to address economic challenges and implement them to provide customized solutions.
- Implemented mathematical models to tackle financial inquiries, offering detail-oriented and pragmatic resolutions.
- Create a Python module to read, clean, and encrypt financial information for generating test cases to train new users of a bank's bonds portfolio.

Achievement: This Python module halved the time required for designing and implementing new training sessions.

■ Graduate Teaching AssistantSept.2015 - Aug.2016

University of Antioquia [udea.edu.co], Colombia.

- Guide advanced college students through the intricate domain of Quantum Mechanics.
- Ensure that students achieve proficiency in the language of quantum mechanics, comprehend relevant methods, and grasp key concepts.
- Develop a new module, "Computational Quantum Mechanics with Python", which was implemented within the Quantum Chemistry subject.

Achievement: This module was incorporated into the Quantum Chemistry curriculum, thereby enriching students' comprehension of the language of quantum mechanics and its tangible applications in the realm of computational chemistry.

Open-Source Contributions

■ PTMC: [github.com/e-florez/PTMC]

An advanced Fortran code that uses the Parallel Tempering Monte Carlo (PTMC) method for an accurate and efficient prediction and analysis of phase transitions in atomic and molecular clusters. Role: Data Scientist and Lead Developer.

AMCESS: [github.com/e-florez/amcess]
Atomic and Molecular Cluster Energy
Surface Sampler (AMCESS) is an opensource Python package that automates the
exploration of the Potential Energy Surface
(PES) for atomic and molecular clusters.
Role: Lead Data Scientist and Architect.

Publications

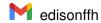
- 1. **Flórez, Edison**; Zapata-Escobar, Andy; Ferraro, Franklin; Ibarguen-Becerra, César; Chamorro, Yuly; and Maldonado, Alejandro F. "Coordination of Mercury (II) in Water Promoted over Hydrolysis in Solvated Clusters $[Hg(H_2O)_{1-6}]_{(aq)}^{2+}$: Insights from Relativistic Effects and Free Energy Analysis." Accepted by The Journal of Physical Chemistry A
- Flórez, Edison; Reuvers, Tom; Schwarz, WH
 Eugen and Peter Schwerdtfeger. "The Stability
 of the Noble Gas Fluorides from Nonrelativistic
 and Relativistic Density Functional and Coupled
 Cluster Studies." Submitted
- 3. **Flórez, Edison**; Odile R. Smits; Jan-Michael Mewes; Paul Jerabek; and Peter Schwerdtfeger. "From the gas phase to the solid state: The chemical bonding in the superheavy element flerovium." The Journal of Chemical Physics 157, no. 6 (2022): 064304. DOI: 10.1063/5.0097642
- Chamorro, Yuly; Flórez, Edison; Alejandro F. Maldonado; Gustavo A. Aucar; and Albeiro Restrepo. "Microsolvation of heavy halides." International Journal of Quantum Chemistry 121, no. 7 (2021): e26571. DOI: 10.1002/qua.26571
- Flórez, Edison; Helgaker, Trygve; Klopper, Wim; Teale, Andrew; Stopkowicz, Stella; and Pahl, Elke. "Melting Under Extreme Conditions: Ab Initio Monte Carlo Simulations." In APS March Meeting Abstracts, vol. 2019, pp. C17-001, 2019.

ui.adsabs.harvard.edu/abs/2019APS..MARC17001F

 Flórez, Edison; Alejandro F. Maldonado; Gustavo A. Aucar; Jorge David; and Albeiro Restrepo. "Microsolvation of methylmercury: structures, energies, bonding and NMR constants (199 Hg, 13 C and 17 O)." Physical Chemistry Chemical Physics 18, no. 3 (2016): 1537-1550. DOI: 10.1039/c5cp04826e

Academic Background

→ Ph.D. in Computational Physics, Massey University, New Zealand











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Jul.2023

→ M.Sc. in Computational Chemistry, University of Antioquia, Colombia Dec.2014

→ B.Sc. in Chemistry, University of Antioquia, Colombia Jul.2012

Fellowships and Awards

- → Massey University Doctoral Scholarship
- → Master in Science Honours and research work with meritorious award

Supervisions

■ M.Sc. thesis in Computational Chemistry Feb.2020

Microsolvation of Heavy Halides $[X(H_2O)_{1-6}]^-$ (X = Br, I, At) University of Antioquia [udea.edu.co], Colombia.

■ B.Sc. Thesis in Computational Chemistry Dec.2017

Relativistic and Electron Correlation Effects on the Calculation of Nuclear Magnetic Resonance Parameters on MX Diatomic Molecules (M=Cu, Aq, Au and X=F, CI, Br, I)

University of Antioquia [udea.edu.co], Colombia.

References

Available upon request

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Yours sincerely,

Edison Florez, Ph.D. edisonffh@gmail.com



