jalejandropintoc@gmail.com
320 995 87 81

JUAN ALEJANDRO PINTO CASTRO

PROFESIONAL PROFILE

Physicist with more than a year of research experience performing computational calculations, data analysis using python language, and delivery of scientific reports.

As a physicist, I have extensive experience in analyzing complex data sets and developing models to describe and predict physical phenomena. This experience has given me a strong foundation in data analysis, statistics, and mathematics, which I have been able to apply to real-world problems in various fields.

My proficiency in Python ans SQL has enabled me to develop efficient and scalable data pipelines and perform data analysis using popular libraries such as NumPy, Pandas, and Scikit-Learn. I have also developed several data-driven solutions using machine learning algorithms that have helped organizations optimize their operations and improve their bottom line.

Reach me out on my Portfolio.

SKILLS

- Programming, analysis and visualization in python
- Manipulation of data in SQL
- Proficient in Git, Github and Linux
- Use of tools like jupyter, google colab, latex, ssh
- Knowledge of HTML and CSS

PROFESIONAL EXPERIENCE

PROFESSOR OF PHYSICS, JESÚS EUCARÍSTIA SCHOOL

01/02/2022 – 30/11/2022

- Prepared to students of eleventh grade to Colombian scholastic aptitude test in the fields of electromagnetism, thermodynamics, waves and mechanics. The students reached the highest score in physics compared to last 10 years results.
- Designed and implemented lesson plans, activities, and assessments that catered to different learning styles and abilities, and effectively engaged students in the physics subject.
- Fostered a positive and respectful classroom environment that encouraged student participation and collaboration.
- Provided personalized feedback to students on their performance, and implemented strategies to support struggling students and challenge high-achievers.

- Stayed current with advancements and trends in physics education, and incorporated them into classroom practices and curriculum development.

- Mentored and coached student teams for academic competitions and research projects, and facilitated their achievements and recognition.

PHYSICS TUTOR, INDUSTRIAL UNIVERSITY OF SANTANDER

06/02/2021 – 30/10/2021

- Conducted individual and small-group tutoring sessions for students in university-level math and physics courses, including calculus, algebra, mechanics, thermodynamics, and electromagnetism.
- Assisted students in understanding and applying mathematical and physical concepts, solving problems, and preparing for exams and assignments.

- Adapted teaching strategies and materials to students' learning styles and abilities, and provided personalized feedback and guidance to support their academic progress.

- Collaborated with faculty and staff to identify and address students' academic needs and challenges, and referred them to appropriate resources and support services.

- Contributed to the development and evaluation of tutoring programs and services, and provided input and feedback on their effectiveness and impact.

- Fostered a supportive and inclusive learning environment that valued diversity, equity, and inclusion, and promoted student success and engagement.

RESEARCH ASSISTANT, INDUSTRIAL UNIVERSITY OF SANTANDER

05/08/2020 – 05/09/2021

• Conducted computational calculations of density functional theory (DFT) using the VASP code, installed in the supercomputer 'Guane', for the material perovskite-like Ruddlesden-Popper $Sr2$ $(Ta, Nb)O3$ N.

• Performed post-processing of data with the codes VASPkit and Phonopy to analyze the electronic and phononic structure of materials.

• Analyzed structural energy with Python libraries such as Pandas, NumPy,

Seaborn, and Matplotlib, as well as the PyProcar library.

• Used software such as Grace and PyProcar for electronic and phononic structure analysis.

• Developed and optimized computer codes in Python to perform simulations on supercomputers, achieving significant improvements in computational efficiency and data analysis.

• Created reports using the markup language LaTeX.

• Presented research findings at materials research society (MRS) and contributed to the dissemination of research results through scientific outreach activities.

EDUCATION

INDUSTRIAL UNIVERSITY OF SANTANDER — BUCARAMANGA — PHYSICS (2021)

- Degree Project associated with Condensed matter computational physics (FICOMACO) Research group of Industrial University of Santander.
  Purpose: Computational Charactirization (energy, electronic and phononic structure) of material perovskite-like Ruddlesden-Popper $Sr2(Ta, Nb)O3N$ in order to provide more information about the possible ferroelectric behavior.
  Project Director: Andres Camilo Garcia Castro, PhD
- Attendance and participation as a poster at the Virtual MRS spring meeting and exhibit 2021 (EL.09.07.05). Seatle,
- USA: MRS in May 2021.

COMPLEMENTARY EDUCATION

EXPLORATORY DATA ANALYSIS BY SENA (2023)

MACHINE LEARNING FUNDAMENTALS BY ANALYTICS VIDHYA (2023)

FUNDAMENTALS OF DATA ANALYTICS DS4A BY CORRELATION ONE (2022)

PYTHON PROFESSIONAL COURSE BY PLATZI (2022)

DATA ANALYTICS WITH PYTHON BY OPEN-TECH (2022)

GIT AND GITHUB PROFESSIONAL COURSE (2022)

C.C 1.052.411.240