Juan Gabriel Balarezo Balarezo

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EDUCATION

Yachay Tech University · **Oct. 2019 - Present**
*Bachelor of Applied Sciences (BASc) in Physics - **GPA: 8.9/10*** · *Urcuqui, Ecuador*

Zhidmad High School · **Sep. 2012 - Jul. 2018**
*Secondary School - **GPA: 8.9/10*** · *Gualaceo, Ecuador*

SKILLS

Languages:	Spanish (native), English (fluent), German (basic)
Computational Skills:	Windows, Linux, Python, C++/C, Rust, Wolfram Mathematica, MATLAB, Qiskit, DFTB+, VASP, LaTeX

RESEARCH AND EXPERIENCE

Research Internship · **Jun - Aug. 2024**
Topological Quantum Error Correction *ML4Q - Cluster of Excellence "Matter and Light for Quantum Computing"*
Supervisor: Prof. Dr. Markus Müller

- Implementation, and benchmark the performance of a quantum error correcting code and decoder that is suitable for a realistic experimental implementation of logical qubits.

Teaching Assistant · **Mar. - May 2024**
School of Physical Sciences and Nanotechnology, Yachay Tech University, Ecuador
Supervisor: Wladimir Banda-Barragán Ph.D

- Assistant in the Computational Physics I Lecture of the Department of Physics.

Research Assistant · **Mar. - May 2023**
Development of a Novel SERS Sample Holder Protocol for Enhanced High-Sensitivity Detection
School of Physical Sciences and Nanotechnology, Yachay Tech University, Ecuador
Supervisor: Carlos Reinoso Ph.D

- Development of an AgNP's green synthesis protocol for SERS applications.

Teaching Assistant · **Dec. 2022 - Mar. 2023**
School of Physical Sciences and Nanotechnology, Yachay Tech University, Ecuador
Supervisor: Carlos Reinoso Ph.D

- Assistant in the Oscillations, Electricity and Magnetism Lecture of the Department of Physics.

TRAINING

C++ Professional Course · **Jan. 2024 - Present**
Azul School

- Syntaxis, Data Types, Variables, Control tructures.
- Data Structures, Functions and Pointers.

QWorld QClass23/24   **Sep. 2023 - Mar. 2024**
QWorld Organisation/ Faculty of Computing, University of Latvia

- Quantum computing, programming, and algorithms.
- Quantum information, Quantum error correction.

First School of Quantum Computing (Quiskit Fall Fest)   **Oct. 2022**
National University of San Marcos, Perú

- Fundamentals of Quantum Mechanics.
- Quantum Circuits and their gates.
- Quantum algorithms and quantum error correction.

Python workshop for symbolic algebra   **Aug. 2022**
Yachay Tech University

- Scipy for linear algebra, calculus and differential equations.

Hands-on Start to Wolfram Mathematica   **Jun. 2022**
Wolfram Training

- Mathematica Basics, 2D and 3D Plotting, creating interactive manipulates and analysing data.

QWorld Quantum Summer School 2021   **Jul. 2021**
QWorld Organisation

Awards And Recongnitions

- Academic Excellence Scholarship - Yachay Tech   **2021-2023**
- Best High School Graduate.   **2018**

Extracurricular Activities

- President of the Quantum Computing Club   2024
- Member of the Yachay Tech English Conversation Club (ECC)   2023
- Member of Quantum Computing Club YT   2023
- Member of the German Club Yachay Tech   2023