

Juan Gabriel Balarezo Balarezo

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EDUCATION

Yachay Tech University <i>Bachelor of Applied Sciences (BASc) in Physics - GPA: 8.8/10</i>	Oct. 2019 - Present <i>Urcuqui, Ecuador</i>
Zhidmad High School <i>Secondary School - GPA: 8.88/10</i>	Sep. 2012 - Jul. 2018 <i>Gualaceo, Ecuador</i>

SKILLS

Languages:	Spanish (native), English (fluent).
Computational Skills:	Python, C++, Wolfram Mathematica, MATLAB, Qiskit, DFTB+, LaTeX
Operative Systems:	Windows, Linux.

RESEARCH AND EXPERIENCE

Research Internship Project: Topological Quantum Error Correction <i>ML4Q - Cluster of Excellence "Matter and Light for Quantum Computing"</i> Supervisor: Prof. Dr. Markus Müller	Already accepted (Jun - Aug. 2024)
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- 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 <i>School of Physical Sciences and Nanotechnology</i> Supervisor: Wladimir Banda-Barragán Ph.D	Mar. - May 2024
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- Assistant in the Computational Physics I Lecture of the Department of Physics.

Research Assistant Project: Development of a Novel SERS Sample Holder Protocol for Enhanced High-Sensitivity Detection <i>School of Physical Sciences and Nanotechnology</i> Supervisor: Carlos Reinoso Ph.D	Mar. - May 2023
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- Development of an AgNP's green synthesis protocol for SERS applications.

Teaching Assistant <i>School of Physical Sciences and Nanotechnology</i> Supervisor: Carlos Reinoso Ph.D	Dec. 2022 - Mar. 2023
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- Assistant in the Oscillations, Electricity and Magnetism Lecture of the Department of Physics.

TRAINING

C++ Professional Course <i>Azul School</i>	Jan. 2024 - Present
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- 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

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

EXTRACURRICULAR ACTIVITIES

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| • Member of Computational Sciences Club | 2023 |
| • 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 |