AISHA BELLO

QUANTUM SCIENTIST

CONTACT

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SUMMARY

Quantum Scientist with 4 years after a physics PhD working on superconducting qubits, from device characterization to quantum error correction experiments. Writes calibration and analysis code in Python and Qiskit, runs cryogenic measurements, and shares results with hardware and software teams in weekly reviews.

SKILLS

- Python
- Qiskit
- Superconducting Qubits
- Quantum Error Correction
- Cryogenics
- Microwave Measurements
- QuTiP
- Signal Processing
- Data Analysis
- Technical Communication

EDUCATION

Doctor of Philosophy

08/2020

Northwestern University

Evanston, IL

Physics

EXPERIENCE

Quantum Scientist 01/2023 - Present

Lakefront Quantum Systems Chicago, IL

Hardware research team building a 64-qubit superconducting processor.

- Develop Python calibration routines that tune **64** qubits overnight instead of over 3 days by hand.
- Run quantum error correction experiments on a distance-3 surface code and cut logical error rate by 25%.
- Measure coherence times on 30 test chips a quarter and feed defect data back to the fab team.
- Write Qiskit pulse sequences for 2-qubit gates, raising average gate fidelity from 99.1% to 99.5%.

Postdoctoral Researcher 09/2020 - 12/2022

Midwest Center for Quantum Engineering Lemont, IL

Postdoc on microwave control of superconducting circuits.

- Built a microwave control stack for 8 qubits in a dilution refrigerator at 10 millikelvin.
- Modeled qubit readout with QuTiP to choose resonator designs for 2 chip generations.
- Published 4 papers on qubit readout and noise.
- Mentored 3 graduate students on cryogenics and signal processing.

Graduate Research Assistant 09/2015 - 08/2020

Northwestern University Department of Physics Evanston, IL

Doctoral research in condensed matter physics.

- Fabricated 50 Josephson junction devices in the campus cleanroom.
- Measured noise spectra in 12 qubit samples at millikelvin temperatures.
- Taught 3 semesters of quantum mechanics recitation.