

Yonara Anastacio Cubas

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EDUCATION

Columbia University, New York, NY

Expected May 2026

B.A. in Computer Science and Public Health

Honors: Columbia Undergraduate Scholars Program; NYC HAQ Hackathon 1st Place; NYU Abu Dhabi Hackathon 2nd Place

Relevant Coursework: Artificial Intelligence, Advanced Programming, Computer Systems, Data Structures & Algorithms, Linear Algebra, Probability

SKILLS

Programming: Python, R, Java, C, JavaScript, SQL **Libraries:** NumPy, Pandas, TensorFlow, Qiskit, Cirq, Matplotlib, OpenGL **Languages:** Spanish (native), English (fluent), French (intermediate B2)

EXPERIENCE

Data Analyst, Columbia University Irving Medical Center

New York, NY

Sept 2025 to Present

- Built a data dictionary for the Rakai Orphans in Communities study under Dr. Malden to standardize multi-source health data.

Assistant, Northeast Big Data Innovation Hub (NEBDHub), Data Science Institute New York, NY *Dec 2024 to Present*

- Analyzed NSDC Transportation Data Science Project responses with Python and R using machine learning, AI, and NLP to identify behavioral and linguistic patterns useful for program design.
- Translated and localized COVID Information Commons content in Spanish to improve accessibility for Spanish-speaking researchers and students.
- Mentored and judged submissions for the CIC Paper Challenge with a focus on research framing, methodology clarity, and reproducibility.
- Produced scripts and videos for the NSDC Flashcard initiative to scale data science education for secondary and undergraduate learners.
- Led SQL and Excel workshops for Columbia master students at the Data Science Institute.
- Supported the Student Portfolio and Network Building group by coaching students on technical portfolios, communication, and networking.

PROJECTS

Quantum Whalesong *Python, Qiskit, Cirq, music21, OpenGL, Three.js*

- Created an interactive system that maps quantum state amplitudes and phases to musical pitch, dynamics, and stereo panning while rendering wave-like ocean surfaces driven by interference patterns.
- Implemented circuits including Quantum Fourier Transform, Bell states, and Grover search to demonstrate superposition and entanglement through sound and visuals.

Quantum Music Composer *Python, TensorFlow Quantum, MIDI, NumPy*

- Built a generator that combines quantum-inspired random walks with Andean pentatonic material and jazz harmony to produce culturally grounded algorithmic music.
- Added a Markov learner that adapts transition probabilities from a MIDI corpus for phrasing control and style consistency.
- Exported compositions as MIDI for use in digital audio workstations and notation workflows.

LEADERSHIP AND OUTREACH

Mentor and judge for the COVID Information Commons Paper Challenge; community educator who designed and taught English and STEM workshops for youth in Peru; volunteer with Girl Up chapters across Latin America.