

Joshua Hiller

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EDUCATION

Union College | Schenectady, NY

B.S. in Physics

Expected June 2026

Relevant Courses: Computational Physics, Intermediate Electromagnetism w/Lab, Modern Experimental Physics w/Lab, Scientific Computing, Physics Research Practicum 3, Relativity-Quantum w/Lab

TECHNICAL SKILLS AND CERTIFICATIONS

Programming Languages: Python (Advanced), Qiskit (Advanced), PyTorch, TensorFlow, LangChain, scikit-learn

Certifications: IBM Quantum, Feb 2025: Variational Algorithm Design, Practical Introduction to Quantum-Safe Cryptography, Basics of Quantum Information

Operating Systems: Windows 10/11, Linux, MacOS

RELEVANT EXPERIENCE

Union College Department of Physics | Undergraduate Researcher | Schenectady, NY **June 2023 - Present**

Parametric Downconversion Experiment, Quantum Optics

- Enhanced the single-photon experiment experience by refining the experimental setup and data collection techniques.
- Improved data analysis efficiency using Python, reducing processing time by 30%.
- Conducted statistical analysis to optimize photon detection rates.

Open Source Contributor, Qiskit (IBM Quantum)

Dec 2023 - Present

- Developed and contributed Python-based tools and educational notebooks to the Qiskit open-source quantum computing framework.
- Collaborated with the global quantum community to enhance documentation, fix bugs, and support feature development in Qiskit modules.

HUMAN Security | Software Developer Intern | New York, NY

June 2025 - Sep 2025

- Worked on the Malvertising Product, applying AI/ML techniques for image processing and fraud detection.
- Developed and optimized software solutions using Python and security-focused technologies.
- Implemented and evaluated ML pipelines, improving detection accuracy and reducing false positives.

LEADERSHIP EXPERIENCE

Athletics | Division 3 Swimming and Diving | Union College

Sep 2022 - Present

- Men's team captain, **Apr 2025 - Apr 2026**
- Member of the Student-Athlete Advisory Committee (SAAC), **Sep 2023 - Present**

Orientation Logistics Coordinator | Union College First-Year Experience

Sep 2023 - Present

- Led groups of 20+ students, fostering engagement and improving retention of orientation material.
- Promoted inclusivity through tailored programming that better addressed student concerns.

Brand Ambassador & Delivery and Setup Specialist | Roomie Inc.

Apr 2023 - Present

- Provide sales and marketing services to enhance the college move-in experience for students seeking better living spaces.
- Managed over 100 furniture deliveries, optimizing setup time and improving customer satisfaction.

Intramural Work-Study | Union College Department of Athletics

Sep 2024 - Present

- Increased event participation by improving organization and communication strategies.
- Ensured smooth event execution, fostering an inclusive and competitive environment for students.