James Saslow

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Education

San Jose State University Masters of Science in Quantum Technology	Expected Graduation Date: May 2025
● Coursework: Quantum Information Science, Intro to Quantum Computing ● Awards: Quantum Technology NSF Research Traineeship at Colorado School of Mines ● Co-founder of the Society of Quantum Engineers chapter at SJSU	
San Jose State University Bachelor of Science in Physics	**August 2018 - December 2022**
● Upper Division Major GPA: 4.0 ● Coursework: Quantum Mechanics, Computational Physics, Partial Differential Equations ● Awards: Summa Cum Laude, Recruited into the Society of Physics Students	

Work Experience

San Jose State University Physics Department   **August 2023 – Dec 2023**

Teaching Associate (Part-time)
- Instructed a university-level introductory physics lab section, graded problem sets, and fostered collaborative, team-based learning for students.

Griffiss Institute & AFRL Internship Program   **June 2023 – Aug 2023**

Quantum Algorithms Research Intern at Air Force Research Lab
- Developed quantum algorithms in Qiskit simulators aimed at solving QUBO problems via amplitude amplification schemes
- Performed benchmarking on IBMQ by conducting a fidelity analysis of amplitude amplification on heavy-hexagonal superconducting devices

San Jose State University Physics Department   **December 2021 – Present**

Quantum Foundations Researcher
- Performed simulations of spontaneous parametric down-conversion and entangled photon generation via an action-based analysis
- Engaged in Python programming, Runga-Kutta techniques for solving nonlinear differential equations, and data visualization

The Leadership Alliance, Brown University   **June 2020 – August 2020**

Soft Matter Research Intern
- Performed professional research on soft matter physics & virology after the start of the COVID-19 epidemic
- Solved nonlinear differential equations to obtain the structure and function of a spherical colloidal membrane viral assembly
- Presented research to the Virtual Leadership Alliance Virtual Symposium
- Awarded the Leadership Alliance Professional Development Badge in recognition of James' research

Relevant Projects ([Click for James' Project Portfolio & Personal Website](#))

[Quantum Circuit Simulator](#) *EE 225 Quantum Computing Project*	September 2023 – Present
● Programmed a gate-based quantum circuit simulator in Python through matrix methods only ● Utilized professional coding conventions and developed data visualization functions to display probabilities, Bloch Sphere visualization, and amplitude space representations of discrete wavefunctions.	
[Variational Quantum Eigensolver Tutorial](#) Phys 161 Quantum Information Science Project	**October 2023 - November 2023**
● Wrote a Python tutorial in a Jupyter Notebook explaining the implementation of the Variational Quantum Eigensolver, solving for the ground state of an H2 molecule.	

Technical Skills

- **Software:** Python, Mathematica, Qiskit, Quantum many-body simulations, DWave API, numerically solving PDE's
- **Language:** English (Native), Spanish (Professional Working Proficiency)