James Saslow

in LinkedIn | 📱 310-804-4477 | 🌐 jamessaslow.com | ✉ james.saslow@sjsu.edu | ⭘ GitHub

Skills

- Python | Qiskit | IBMQ | DWave Leap API | Flask | TensorFlow | PyTorch | C++ | OOP | Wolfram Language | Mathematica
- Quantum Programming | Quantum Algorithms | Quantum Software Development | Combinatorial Optimization | QUBO
- Superconducting Quantum Computing | Benchmarking | English, Spanish - *All Professional Proficiency or Above*

Work Experience

Quantum Engineering Traineeship   **NSF**   Golden, CO   1/2024 - Present
- Engaged in an NSF-funded quantum traineeship program between San Jose State University and the Colorado School of Mines to prepare fellows to join the quantum workforce
- Studied and contributed to quantum information science research at Colorado School of Mines during the Spring 2024 semester

Teaching Associate   **San Jose State University**   San Jose, CA   8/2023 - 12/2023
- Instructed an undergraduate-level introductory physics lab course (Phys 2A), graded problem sets, and fostered collaborative, team-based student learning

Quantum Foundations Researcher   **San Jose State University**   San Jose, CA   12/2021 - 12/2023
- Performed simulations of spontaneous parametric down-conversion in Python to research entangled photon pairs
- Implemented Runga-Kutta 4th-order techniques to solve non-linear coupled differential equations

Quantum Algorithms Intern   **Air Force Research Lab**   Rome, NY   6/2023 - 8/2023
- Researched amplitude amplification quantum algorithms for solving combinatorial optimization problems
- Performed benchmarking of amplitude amplification on IBMQ heavy-hexagonal superconducting quantum devices

Grader   **San Jose State University**   San Jose, CA   1/2021 - 5/2021
- Grader for Mathematical Methods for Physics course (Phys 130), graded problem sets, and assisted students with homework in Zoom breakout rooms

Soft Matter Research Intern   **Brown University**   Providence, RI   6/2020 - 8/2020
- Solved nonlinear differential equations to obtain the structure of a spherical colloidal membrane viral rod assembly
- Presented research to the Virtual Leadership Alliance National Symposium

Education

M.S., Quantum Technology   **San Jose State University**   San Jose, CA   8/2023 - Present
- **Coursework:** Quantum Computing | Advanced Machine Learning | Quantum Programming | Quantum Information Science
- **GPA:** 3.90
- Co-founder of the Society of Quantum Engineers at SJSU

B.S., Physics   **San Jose State University**   San Jose, CA   8/2018 - 12/2022
- **Coursework:** Quantum Mechanics | Partial Differential Equations | Computational Physics
- **Upper Division Major GPA:** 4.0, Summa Cum Laude
- Accepted into the Society of Physics Students (SPS) in recognition of scholarly excellence

Projects

- **Solving QUBOs on DWave's API**
  - A tutorial series solving NP-Hard combinatorial optimization problems using DWave's quantum annealers
- **Variational Quantum Eigensolver Tutorial**
  - A Jupyter Notebook tutorial on performing VQE for an H2 molecule
- **Transmon Qubit Emulator**
  - Interactive simulator and Bloch Sphere visualization of the time evolution of a Transmon qubit interacting with microwave pulses
- **Grover's Algorithm with an Imprecise Oracle**
  - A quantum error correction model of Grover's algorithm to recover solutions of the marked state while still maintaining a quantum advantage