

James Saslow

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Skills

- Python | Qiskit | TensorFlow | C++ | Linux | OOP | Wolfram Language | Mathematica | IBMQ | DWave Leap API
- Qiskit Metal | Ansys | HFSS | RF/Microwave Engineering | Quantum Algorithms | Combinatorial Optimization
- Superconducting Quantum Computing | Qubit Benchmarking | English, Spanish - *All Professional Proficiency or Above*

Education

M.S., Quantum Technology	<u>San Jose State University</u>	San Jose, CA	8/2023 - Present
<ul style="list-style-type: none">• Coursework: Q Information Science Q Many-Body Phys Q Computing Architectures• Thesis: <i>Superconducting Quantum Chip Design & Optimization</i>• GPA: 3.90• Co-founder of the Society of Quantum Engineers at SJSU• Davidson Student Scholar Engineering Award Recipient			
M.S., Quantum Engineering	<u>Colorado School of Mines</u>	Golden, CO	1/2024 - 5/2024
<ul style="list-style-type: none">• Temporary student studying at CSM as a part of the NSF-NRT fellowship program• Coursework: Quantum Programming Advanced Machine Learning			
B.S., Physics	<u>San Jose State University</u>	San Jose, CA	8/2018 - 12/2022
<ul style="list-style-type: none">• 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			

Work Experience

Quantum Engineering Traineeship	<u>NSF-NRT</u>	Golden, CO	1/2024 - Present
<ul style="list-style-type: none">• Engaged in an NSF-funded quantum traineeship program• Collaborated with Lawrence Livermore National Lab (LLNL) to research cavity QED and the design of a 3D transmon system• Utilized Ansys HFSS to perform electromagnetic simulation for design optimization			
Teaching Associate	<u>San Jose State University</u>	San Jose, CA	8/2023 - 12/2023
<ul style="list-style-type: none">• Instructed an undergraduate-level introductory physics lab course (Phys 2A), graded problem sets, and fostered collaborative, team-based student learning			
Quantum Foundations Researcher	<u>San Jose State University</u>	San Jose, CA	12/2021 - 12/2023
<ul style="list-style-type: none">• Solving convex optimization problems to predict the weak values of spin qubits on the input and output of a root-SWAP gate• Performed simulations of spontaneous parametric down-conversion in Python to research entangled photon pairs			
Quantum Algorithms Intern	<u>Air Force Research Lab</u>	Rome, NY	6/2023 - 8/2023
<ul style="list-style-type: none">• Researched amplitude amplification quantum algorithms for solving combinatorial optimization problems• Performed benchmarking of amplitude amplification on IBMQ heavy-hexagonal superconducting quantum devices			
Soft Matter Research Intern	<u>Brown University - Leadership Alliance</u>	Providence, RI	6/2020 - 8/2020
<ul style="list-style-type: none">• 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			

Prospective Publications

- [A Localized Reality Appears to Underpin Quantum Circuits](#)
 - Analyzed quantum dynamics of entangled spin qubits by examining the evolution of their weak values in a local and retrocausal model

Projects

- [Solving Binary Classification Problems Using Quantum Neural Networks](#)
 - Prototyped a quantum neural network to perform binary classification on the Iris, Breast Cancer Wisconsin, and on filtered MNIST datasets
- [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