

Riley Peterlinz

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WORK EXPERIENCE	Berkeley AI Research <i>Research Associate</i> April 2023 - Present
	<ul style="list-style-type: none">Working with Prof. Angjoo Kanazawa and Prof. Alyosha Efros on projects in qualitative 3D.NeRF Studio Contributor
	Berkeley Lab <i>Research Engineer</i> September 2021 - May 2023
	<ul style="list-style-type: none">Quantum Algorithms for High Energy Physics LabWorked closely with physicists to build internal optimization tools for machine-learning based physics deployed across multiple projects
PROJECTS	3D Fluid Simulation Computer Graphics
	<ul style="list-style-type: none">Implemented FLIP (Fluid in Particle) fluid simulation in pythonExported particle system to mesh using OpenVDBRendering in Blender's EEVEE rendering engine
	Neural Style Transfer Computer Vision
	<ul style="list-style-type: none">Implemented Neural Style Transfer Paper in Pytorch and compared results with Image Quilting, an older method for texture synthesisPython, PyTorch, OpenCV, Google Colab
	Facial Keypoint Detection with Neural Networks Computer Vision
	<ul style="list-style-type: none">Implemented RESNET and UNET architectures for facial recognition in PyTorchTrained on the 300-W iBug facial landmark dataset and tested on the same dataset without labels alongside my own picturesUNET gave best results with a mean error of 8.97px per facial landmarkPython, PyTorch, Skimage, Plotly, Google Colab
	Parameter Optimization for Variational Quantum Eigensolver Berkeley Lab
	<ul style="list-style-type: none">Built tools to discover the global minima of various quantum cost functionsUsed for research in quantum computing with 10,000+ lines of codePython, Qiskit, Numpy, Sympy, PyTorch
EDUCATION	UC Berkeley 2023
	B.A. Computer Science and Physics <i>Relevant Coursework:</i> Algorithms, Computer Vision and Computational Photography, Computer Graphics, Machine Learning, Discrete Mathematics and Probability Theory, Multivariable Calculus, Linear Algebra
TEACHING	CS 198-120: Full-Stack Quantum Computing <i>Instructor</i> UC Berkeley
	<ul style="list-style-type: none">Developed lectures and problem sets for a course on quantum computing30+ students with lectures 2x per week for weekly problem sets and a final project
	CS 170: Algorithms <i>Reader</i> UC Berkeley
	<ul style="list-style-type: none">Hosted office hours and graded assignments for 500+ students every week
SKILLS	Languages & Frameworks Python, Java, C++, Git, Jupyter Tools LaTeX, Qiskit, Processing, Numpy, OpenCV, PyTorch, Plotly, Matplotlib, Pandas