Steven Durr

StevenDurr@UCLA.edu

518-366-4100

durrcommasteven.github.io

EXPERIENCE

Google Venice / Mountain View, CA
Software Engineering Intern

Google Quantum AI Jun - Sep 2021
- Implemented, tested, and executed experiments for surface code calibration on Google's quantum computers.

Google My Business Jun - Sep 2018
- Applied transformer language models, clustering algorithms, and dynamic templates to produce accurate merchant descriptions.

UCLA Los Angeles, CA
Chakravarty Group Member 2017 - 2022
- Trained transformer models to reproduce quantum ground states, beating conventional methods on highly-entangled states. Code available on Github.
- Used unsupervised clustering techniques to identify nonequilibrium phases of matter.
  (Published as *Unsupervised learning eigenstate phases of matter*)

Research with Professor Shenshen Wang 2019 - 2022
- Characterizing phase transitions in GAN dynamics using effective models.
  (*Effective Dynamics of Generative Adversarial Networks*, in review)

CORNELL Ithaca, NY
Perelstein Group Research Assistant May 2015 - May 2016
- Developed programs in Python for implementing neural networks of arbitrary architectures (both fully connected and convolutional), later migrating to TensorFlow once it was released.
- Used neural networks for boosted top quark identification in LHC jets

STR Boston, MA
Senior Scientist May 2023 - Present
- Working on national security challenges using machine learning, physics, and computational science.

EDUCATION

University Of California, Los Angeles Los Angeles, CA
PhD in Theoretical Condensed Matter Physics Sep 2016 - Jun 2022
Dissertation: *Aspects of Many-Body Physics and Machine Learning*

M.S. in Physics Sep 2017

Cornell University Ithaca, NY
Bachelor of Arts in Physics, Mathematics (Double Major) Aug 2012 - May 2016

SKILLS

Python: 7+ years of experience. Familar with TensorFlow, PyTorch, Numpy, Scipy, Pandas, Matplotlib, Jupyter/Colab Notebooks, Git, etc.

Relevant Coursework: Princeton Machine Learning Theory Summer School 2021, Cornell MATH4330: Honors Linear Algebra (Grade: A)

SELECTED WORK

Effective Dynamics of Generative Adversarial Networks
Steven Durr, Youssef Mroueh, Yuhai Tu, Shenshen Wang
arXiv:2212.04580v1 [cond-mat.dis-nn]