

Steven Durr

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durrcommasteven.github.io

EXPERIENCE

STR

Senior Scientist

Boston, MA

May 2023 - Present

- Leveraging transformer models and advanced statistical analysis to tackle critical national security challenges.

Google

Software Engineering Intern

Venice / Mountain View, CA

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

Chakravarty Group Member

Los Angeles, CA

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*, published in Physical Review X)

CORNELL

Perelstein Group Research Assistant

Ithaca, NY

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

EDUCATION

University Of California, Los Angeles

PhD in Theoretical Condensed Matter Physics

Los Angeles, CA

Sep 2016 - Jun 2022

Dissertation: *Aspects of Many-Body Physics and Machine Learning*

M.S. in Physics

Sep 2017

Cornell University

Bachelor of Arts in Physics, Mathematics (Double Major)

Ithaca, NY

Aug 2012 - May 2016

SELECTED PUBLICATION

Effective Dynamics of Generative Adversarial Networks

Steven Durr, Youssef Mroueh, Yuhai Tu, Shenshen Wang

Phys. Rev. X 13, 041004 (2023)

SKILLS & CREDENTIALS

Python: 8+ years of experience. Familiar with PyTorch, Tensorflow, 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)

Clearance: Active TS/SCI clearance