

Domenic A. Ferreris

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EDUCATION

Princeton University, Princeton, NJ

May 2023

A.B. in Physics, Certificate in Applications of Computing

GPA: 3.562

Thesis: “Classifying 2D Input with Quantum Reservoir Computing”

Relevant Coursework: Probability & Stochastic Systems, Statistics, Machine Learning Theory, Algorithms & Data Structures, Real Analysis, Ordinary Differential Equations, Programming Systems, Quantum Computing

SKILLS

Programming: Python (pandas, numpy, matplotlib, scipy, qiskit), Java

RESEARCH EXPERIENCE

Undergraduate Research Assistant, Princeton University

Fall 2022 – Spring 2023

Türeci Group in Quantum Engineering

- Implemented a machine learning model known as quantum reservoir computing (QRC) on a quantum computer using python and applied the model to perform the two-class randomized spiral classification task.
- Numerically verified a theoretical prediction that the QRC model’s performance would improve by increasing the number of layers (repetitions of the quantum circuits).

Undergraduate Research Assistant, Princeton University

Summer 2021 – Fall 2021, Summer 2022

Austin Group in Biophysics

- Helped to develop mathematical and physical models to quantify the behavior of *E. Coli* bacteria near a “hydrodynamic black hole,” employing python for the modeling and data analysis (journal paper in review).

Undergraduate Research Assistant, Princeton University

Spring 2022

de Leon Group in Quantum Devices

- Developed a simulation in python of the magnetic field that would be produced by viscous electron flow in a 2D sheet of graphene and determined the experimental feasibility of measuring the field with nanoscale sensors.

WORK EXPERIENCE

Intro CS Grader, Princeton University

Spring 2021

- Graded and provided constructive feedback on student assignment submissions for the intro CS class.

Competition Organizer, Princeton Classics Club / Princeton Certamen

Fall 2019 – Spring 2022

- Helped organize and oversee our national high school certamen (Latin quiz bowl) tournaments.

HONORS & AWARDS

National Junior Classical League Competitions

Summers 2016 - 2019

Indiana University, Troy University, University of Miami Ohio, North Dakota State University

- Multiple awards across 4 summers, most notably 1st Place Advanced Certamen 2019 (Latin quiz bowl).

INDEPENDENT PROJECTS

- Developing a college football prediction model in python (using pandas, sklearn, BeautifulSoup4, selenium).