

Trevor Brokowski

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Education

UCLA - HONORS COLLEGE

BS: COMPUTATIONAL BIOLOGY

Specialization: QUANTUM

MACHINE LEARNING FOR GENETIC
ENGINEERING

Date: 2020 - 2023 | **GPA:** 3.85/4.00

Honors Theses

Quantum Machine Learning

- Simulating multi-body molecular interactions via quantum machine learning.

Biomedical Informatics

- Personalized antibiograms for AI driven antimicrobial stewardship and prescription in healthcare.

Honors Projects

Linear Algebra in Quantum

Computing

- Taught advanced topics of linear algebra involved in quantum computation to the class professor, met weekly. Project Grade: A.

Racial and gender bias in computer vision for healthcare

- Built and assessed the effects of adding ethnicity and gender information into a neural network classifying age from x-ray images. Project Grade: A.

Certifications

HarvardX: Data Analysis for Life Sciences | IBM Certified Associate Quantum Developer | Certified Kubernetes Application Developer | Udemy: Advanced SQL | Fundamentals of ML Ops CI/CD.

Skills

Computer: Python, C+, Java, SQL, Tableau, Git, Linux, Kubernetes, R, AWS, Azure, Oracle.

Libraries: Tensorflow, Pytorch, Keras, Pandas, Numpy, Scipy, Qiskit, Pennylane, OpenCV

Misc: Probability and Statistics, Biology, Quantum Chemistry, RNA structure probing and prediction.

Experience

DATA SCIENCE AND ANALYTICS INTERN

WORLD WIDE TECHNOLOGY

📅 May 2022 – September 2022

📍 Remote

- Better allocated and predicted 15 years of work, 1.5 million dollars in salary, and verified agile practices and the existence of the agile team through artificial intelligence and data driven insights.
- Skilled in model deployment, ML Ops, and CI/CD practices utilizing Kubeflow, Kubernetes, Docker and Azure.
- Proficient in designing visually appealing dashboards permitting actionable road-maps by leveraging data driven and business intelligent insights.

DEEP LEARNING AND AI INTERN

BIOSERO

📅 Apr 2021 – Apr 2022

📍 San Diego, CA

- Built a deep learning based object detection system for lab automation using advanced and robust contour segmentation techniques to identify an object's location in the lab environment and automate correction if placed incorrectly by robotic arms - patent pending.

Research

AI IN MEDICINE

UCLA GEFEN HOSPITAL

📅 Mar 2022 – Current

📍 Los Angeles, CA

- Utilized patients' entire EHR history to construct personalized antibiograms and optimize antibiotic prescription, addressing antibiotic stewardship and antibiotic resistant super-bugs.
- Currently focused on deploying the model in the UCLA hospital to affect real-world change.

QUANTUM COMPUTING

UCLA QUBIT LAB

📅 Aug 2021 – Current

📍 Los Angeles, CA

- Developed a novel method to simulate multi-body molecular interactions on a quantum device using quantum machine learning and a hybrid loss function capable of noisy optimization.
- Presented at the IEEE International Conference for Quantum Computing and Engineering, one of 3 undergraduates selected out of 500 applicants.
- Taught 5 Introduction to Quantum Computing workshops for electrical engineering majors at UCLA.

COMPUTATIONAL BIOLOGY

UCLA ALFARO LABORATORY

📅 Nov 2020 – July 2021

📍 Los Angeles, CA

- Developed expertise in pipeline optimization and dynamic programming, contributing towards the only R package capable of identifying the significance of color patterns in the Darwinian evolution of birds and fish.
- Optimized the image processing pipeline from completion in 3 hours to 7 minutes | Created a function to correct color selection - increasing accuracy by 30 percent | Developed a recursive algorithm to identify the significance of clustered color regions.