

## EDUCATION

### Princeton University

May 2026

*Bachelor of Science Engineering - Computer Science & Quantitative Decision Science*

GPA: 3.9/4.0

Courses: Algorithms and Data Science, Econometrics, Systems Design, Optimization, Advanced Vector Calculus

### Thomas Jefferson HSST

GPA: 4.65/4.00 Top: 1%

Courses: Machine Learning, Artificial Intelligence, Electrodynamics, Research Statistics, Linear Algebra

Awards: AIME 3x Qual, Presidential Service Award, Eagle Scout, T20/2000 Cybersecurity

### IBM Data Science (Certification)

Jan 2021

### Qiskit Quantum Excellence (Certification)

Nov 2023

## EXPERIENCE

### Vytal AI

#### Founding Engineer

Feb 2022 - Present

- Developed ECG-PPG Pulse Transit Time calculations using the Pan-Thompkins algorithm and SciPy libraries, enhancing vital sign monitoring accuracy by 15%.
- Applied statistical modeling to classify and identify 9 biometrics in alignment with current research standards.
- Contained a model using Docker and managed an AWS pipeline for real-time inference and transfer learning, reducing data latency by 200 msec, bringing in over 1.3Mn in investments and a 12.5Mn valuation

### Jerry Two Fund, Inc.

#### AI Private Equity Analyst

May 2023 - Aug 2023

- Completed fundamental financial analysis on public movers in the Generative AI field. Presented deep dives on data warehousing and data lake companies using Porter's Five Forces, contract analysis, and product analysis.

### George Mason University

#### Deep Learning Intern

Jun 2022 - Aug 2022

- Adapted Rehearsal-Based Continual Learning theory for human-like disease classification.
- Constructed convolutional neural networks utilizing PyTorch to identify patterns in medical imaging data with a 95% accuracy.
- Developed & implemented retraining capabilities for the models to recognize new diseases, contributing to an approximate 40% increase in accuracy retention over naive methods.

Regeneron Biomedical Award & National Junior Science and Humanities Symposium Finalist.

## PUBLICATIONS & PROJECTS

### Royal Society of Chemistry

#### Paper Publication

2022

Zhang, A., & Luo, X. Tuning the optical properties of monolayer WS<sub>2</sub> for near-infrared-II photothermal therapy: A First-principles study. *Materials Advances*, 3(14), 5845–5856. (2022)

### Wharton Investment Competition

#### Stock Portfolio Allocation

2022

Utilized Markowitzian Mean-Variance Theorem with L2 Regularization to calculate optimal weights for a basket of stocks with the PyPortfolioOpt library. Global Champion (1500+ Teams), Wharton Investment Competition

### HackTJ 2023 Hackathon

#### ConsciousCapital

2023

Applied financial theory with KNN clustering techniques on a web application to aid users in selecting stock investment choices from the S&P 500 based on their ESG needs. HackTJ Best Web Hack & Top 3 Finance Hack

## SKILLS

### Languages

Python (6y), Java (3y), R(2y), SQL (1y), C++ (1y)

### Operating Systems

Windows, macOS, Linux (Ubuntu/Debian)

### Libraries/Platforms

PyTorch, Scikit-Learn, Keras/Tensorflow, Pandas, React, AWS, Google Cloud, Git, Jupyter Notebook

### Techniques

Exploratory Data Analysis, Visualization, Machine Learning, Statistical Analysis, Model Development