

# Michael Capriotti

in mcapriotti    mcapriotti    mcapriotti1    michaelcapriotti2028@u.northwestern.edu    630 991 6959

## Education

---

**Northwestern University** 2024 – 2028  
*Bachelor's degree in Computer Science and Mathematics*

**Illinois Mathematics and Science Academy** 2021 – 2024  
◦ **GPA:** 3.95/4.00  
◦ **Coursework:** Differential Equations, Statistics, Calculus Based Mechanics/Electricity and Magnetism, Modern Physics, Physical Chemistry

## Experience

---

**Web Development Intern** Oswego, IL  
*Hudson Design House* July 2024 – Present

- Integrated WooCommerce and Square for e-commerce functionality
- Implemented secure mobile-friendly shopping cart systems
- Transitioning a Traditional Brick-and-Mortar Store to an Online Presence

**Academic Tutor** Remote  
*Amikka Learning* May 2024 – Present

- Tutor math, physics, and chemistry
- Assist students with SAT preparation

**Quantum Computing Research Intern** Remote  
*Los Alamos National Laboratory* Feb 2024 – Present

- Semidefinite programming warmstarts for quantum algorithms
- Solving quadratic unconstrained combinatorial optimization problems
- Markowitz portfolio optimization simulated by geometric Brownian Motion

**HVAC Technician Assistant** Bourbonnais, IL  
*Cap's Electric and Refrigeration* June 2024 – Sept 2024

- Installed/Repaired air conditioners, furnaces and ventilation pipes

**Data Science Research Assistant** Evanston, IL  
*Northwestern University - Kellogg School of Management* August 2022 – June 2024

- Processed 1000+ obituary images using OCR
- Analyzed executive traits with ChatGPT
- Sorted data in Excel using Pandas

## Projects

---

**QUBO To Ising** [Github](#) 

- Warm started QAOA (Quantum Approximate Optimization Algorithm) to solve QUBO (Quadratic Unconstrained Binary Optimization) problems: Portfolio Optimization, Random QUBOs, Traveling Salesman, and Maximum Independent Sets
- Paper in the works
- **Tools Used:** Python, Qiskit, Matplotlib, NumPy

**Executives Traits AI** [Github](#) 

- Created a method for extracting and analyzing data by feeding it through ChatGPT via automation of a remote debugging port (specifically used for processing data on executives)
- **Tools Used:** Python, Pyppeteer, Pandas, Openpyxl

## Zolpidem

[Zolpidem.com](https://zolpidem.com) 

- Built an informative website on insomnia using Wordpress and some HTML. Enhanced search visibility through SEO optimization and designed a user-friendly interface to provide accessible resources.
- **Tools Used:** Wordpress, HTML

## Programs

---

### MIT Introduction to Technology, Engineering, and Science

*Remote*

*June 2023 – Dec 2023*

- Selected from over 2,700 applicants
- Researched AI bias and nuclear fusion topics

### Wharton - Essentials of Finance

*Philadelphia, PA*

*June 2023 – July 2023*

- Learned personal and corporate finance
- 1st place in ESG Poster competition

## Skills

---

**Languages:** Python

**Technologies:** Jupyter Notebook, Google Colab, Git, Visual Studio Code, Excel, Wordpress

**Frameworks and Libraries:** Pandas, NumPy, Qiskit, PyTorch, Seaborn, Matplotlib