

# Kevin Vuong

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## EDUCATION & CERTIFICATES

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**University of Notre Dame, Notre Dame, IN**

**Expected Graduation: May 2027**

College of Engineering, *Bachelor of Science in Electrical Engineering & Mathematics*

**GPA: 4.00/4.00 / ACT: 35**

**Major:** Electrical Engineering | Mathematics with Honors

**Independent Studies:** Group Theory, Calculus II & III, Vector Calculus, Linear Algebra, CAD (Inventor, SolidWorks, AutoCAD, REVIT, Cura), **Programming Languages:** Python, HTML & CSS, LaTeX, C++, IBM Qiskit

**Certificates:** Microsoft Word, Excel, PowerPoint, Office

## PROJECTS

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**Quantum Computing: Haq.ai (<https://www.haq.ai/>), CEO, Notre Dame, IN**

**Aug. 2023 – Present**

- Developed interactive website that allows anyone to learn Quantum Computing through interactive problems, enabling deeper understanding and practice for Hackathons.
- Collaborated with online Unitary Fund, QWorld, and other Quantum Computing communities to establish and maintain community of ~500 active users
- Leveraged IBM's Qiskit programming language to implement 10 problems, contributing to over 100 coding challenges, ensuring diversity of problems and depth of user knowledge.

**YouTube Math Content Creator, (Created with Manim Coded in Python), Notre Dame, IN**

**Sep. 2022 – Present**

- Lead and developed introductory explanatory Mathematical Video on mathematical injections, surjections, and bijections. focused on educating wider mathematical community.
- Utilized Python's Manim Library to engineer animations, enabling quick and streamlined scenes.
- Currently developing video analyzing the Rubix Cube and its representation via Permutation Groups.

**Self-Programmed ROBLOX Reselling Business, (Coded in Python) Founder, Hastings NE**

**Aug. 2019 – March 2022**

- Launched & maintained self-employed business on ROBLOX (Gaming Platform) during COVID-19.
- Generated \$12,000+ in revenue and \$4600+ in profit passively at 15-years-old.
- Automated sales of goods to reduce total requests and API calls by 80+%.
- Developed accounting & statistics system to accurately record projected profits and taxes owed.

**Native American Tribe Webscraper, (Coded in Python) Coding Project, Hastings NE**

**Aug. 2022 – Sep. 2022**

- Designed Webscraper that collects contact info on all 574 Native American Tribes.
- Utilized by Native American Conservationist to streamline contact efforts.
- Interfaced with SerpAPI to reduce the number of requests and ultimate runtime.

## RESEARCH & EXTRACURRICULAR ACTIVITIES

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**Undergraduate Researcher in Quantum Computing, Notre Dame Nanophotonics Lab**

**Sep. 2023 – Present**

- Developed Quantum Circuits in IBM's Qiskit to model Quantum-Enhanced Support Vector Machines to analyze advantages and disadvantages compared to traditional Support Vector Machines.
- Implemented Quantum Circuits to re-create low-level adder circuits.

**Argonne Leadership Computing Facility AI Participant, Argonne National Laboratory**

**Jan. 2023 – Present**

- Utilized ALCF's 44 Petaflop Polaris Supercomputer to train Convolutional Neural Networks modeling the MNIST Handwritten dataset.
- Leveraged mpi\_pi and Parallel Computing on Polaris Scheduler to approximate Pi with 10-nodes via Monte Carlo method for demonstrating Data Parallelism and Model Parallelism.

**ND Rocketry – Apogee Control System Group (ACS), Statistician & Software Engineer**

**Aug. 2023 – Present**

- Conducted Trade Studies and Rankings of optimal Servomotors and Arduino Boards for ACS design.
- Researched linear estimators and Kalman Filters to accurately actuate ACS motors.

**Enable ND – Prostheses Manufacturing – Myoelectric Engineering Team, Sensor Engineer**

**Aug. 2023– Present**

- Optimizing pressure sensors to automatically rotate and flex prosthesis to desired angle.
- Designing electrical circuits to reflexively adjust grip string of prosthesis.