

# Erik Vo

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## EDUCATION

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### Boston College

Chestnut Hill, MA

*Bachelor of Arts in Computer Science, Minor in Data Science*

*Expected May 2028*

- Relevant Coursework: Probability, Algorithms, Discrete Math, Data Structures, Linear Algebra, Computer Organization, Computer Systems, Machine Learning, Algorithmic Game Theory, Web App Development

## PROJECTS

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### Liar's Poker | *Python, FastAPI, WebSockets, JavaScript*

Jan. 2026 – Present

- Built a real-time multiplayer bluffing game supporting concurrent rooms of 2–8 players by developing a FastAPI WebSocket server with 4-character room-code matchmaking and host-configurable settings
- Prevented hidden-information leakage between players by designing a server-authoritative protocol that serializes and broadcasts personalized per-client game snapshots
- Guaranteed state consistency under concurrent actions and recovery from dropped connections by implementing a 7-phase game state machine with asyncio locking and persistent-client-ID session reconnection

### Plan4Eagles | *JavaScript, HTML/CSS, Node.js*

Nov. 2025 – Present

- Streamlined academic planning for Boston College students by designing a 4-page web app with a 4-year degree planner, visual course scheduler, real-time GPA calculator, and major-aware career opportunities finder
- Enabled real-time conflict detection across nearly 5000 course sections by building a CSS grid-based weekly schedule visualizer with a time-overlap validation algorithm and localStorage-backed cross-page persistence
- Automated ingestion of live course data by developing a Node.js scraper for Boston College's public APIs, parsing meeting times, room assignments, and prerequisite codes via regex extraction

### Deloitte Quantum Sustainability Challenge | *Python, Qiskit, Scikit-learn, pandas*

Feb. 2026 – Mar. 2026

- Predicted California ZIP-code-level wildfire risk and forecast 2021 insurance premiums by building a hybrid quantum-classical ML pipeline processing 125K+ wildfire records and 47K insurance policy rows
- Achieved 0.89 recall and 0.72 F1 on wildfire classification with 1/8th the training data of classical baselines by engineering a quantum kernel SVM with a linearly entangled ZZFeatureMap circuit on IBM FakeMarrakesh
- Reached 6.1% MAPE and 0.992 R<sup>2</sup> on premium forecasts across six policy categories by blending a persistence baseline with gradient-boosted time-series regression

## EXPERIENCE

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### Coding Instructor

Jun. 2026 – Present

*Mr. Gao's Art Studio*

*Boston, MA*

- Increased weekly student return rate by 80% by creating interactive activities for weekly programming classes covering Python fundamentals and introductory game design

### Teaching Assistant, Data Science Principles

Jan. 2026 – Present

*Boston College*

*Chestnut Hill, MA*

- Support 60+ students in an introductory Python and data science course by holding weekly office hours and debugging assignments using pandas, NumPy, and Matplotlib
- Reinforce concepts spanning exploratory data analysis, visualization, introductory machine learning, and responsible algorithmic decision-making through course discussions

### Bioinformatics Intern

Jul. 2023 – Aug. 2023

*Massachusetts Institute of Technology*

*Cambridge, MA*

- Conducted molecular biology research through the LEAH Scholars Program by performing DNA extraction, PCR amplification, and gel electrophoresis
- Identified mutations and compared DNA sequences by analyzing experimental results with concentration calculations and introductory bioinformatics methods

## SKILLS

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**Languages:** Python, Java, C, C++, SQL, JavaScript, TypeScript, OCaml, HTML/CSS

**Frameworks:** React, FastAPI, Node.js, REST APIs, Flask, MongoDB, Firebase, WebSockets, asyncio, TailwindCSS

**Developer Tools:** Git, Docker, Airflow, Jenkins, Bash, Unix/Linux, Google Cloud Platform, Amazon Web Services

**Libraries:** Scikit-learn, TensorFlow, SQLAlchemy, pandas, NumPy, Matplotlib, PyTorch, Qiskit