BEN NGUYEN

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA **December 2025**

Bachelor of Science in Computer Science

Concentration: Security and Privacy

Coursework: Browser Security, Applied Cryptography, Usable Security and Privacy, Computer Security, Computer Networks, Database Systems, Distributed Systems, Artificial Intelligence, Software Engineering

EXPERIENCE

Artificial Intelligence Engineer Intern – FPT Software – Ho Chi Minh City, Vietnam **May 2024 – August 2024**

- Improved online retail store's search engine performance by ~30% by evaluating embedding models using MAP@K values, Shapley values and LIME.
- Generated high-quality training data based on these evaluations.
- Developed a large language model to create complex workflows from user inputs, significantly enhancing the UI/UX of a workflow creation application.
- Developed a PDF translator that translates text in a PDF while keeping the original images and formatting.

Artificial Intelligence Engineer Intern – FPT Software – Ho Chi Minh City, Vietnam **December 2023 – January 2024**

- Applied data labeling and annotation techniques to optimize semantic search functionality.
- Engineered a predictive model to identify and prevent fraudulent credit card transactions.
- Researched and presented the benefits and drawbacks of traditional search engines vs. LLM-based search engines.

Teaching Assistant – Carnegie Mellon University – Pittsburgh, Pennsylvania **January 2022 – December 2022**

- Led a review team providing feedback on assessments, assignments, class notes and other student-facing documents.
- Taught group sessions of 25 students, held office hours 2+ hours a week, tutored struggling students, created practice material, and graded assessments and assignments.
- Mentored 12 students through a 1000+ line project in Python showing algorithmic complexity and UI/UX skills.

PROJECTS

Tetris **October 2021 – February 2022**

- Recreated Tetris using Python and tkinter.
- Constructed a board scoring heuristic and an artificial intelligence bot utilizing a genetic algorithm.
- Revamped user interface by adding buttons, menu screens, colors, and fonts.
- Improved randomization algorithm by using a bag system ensuring a fair distribution of tetrominoes.
- Implemented additional features such as hold, next, and ghost pieces.

112Maze **November 2021 – December 2021**

- Developed game logic, graphics, and user interface of a raycasted maze generation game using Python and tkinter.
- Implemented multiple maze generation and pathfinding algorithms such as depth-first search, breadth-first search, and Prim's algorithm utilizing graphs, stacks and queues.
- Optimized raycaster using a digital differential analyzer algorithm.

SKILLS

Languages: Python, C/C++, JavaScript, Rust, Standard ML, Golang, HTML/CSS, SQL, Swift

Tools: Git, React, Node, LaTeX, Prompt Engineering, AWS, Docker

Natural Languages: English, Vietnamese