Evan P. Taylor

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Education

Boston College — Chestnut Hill, MA

Bachelor of Science in Computer Science, Bachelor of Arts in Mathematics — *Aug. 2021 – May 2025*

- Relevant courses: Machine Learning, Deep Learning & Computer Vision, Linear Algebra, Differential Equations, Differential Geometry

The Browning School — New York, NY

High School; Graduated Cum Laude — *Aug. 2017 – May 2021*

- SAT: 1510
- GPA: 3.8

Projects

GitHub Repository Chat | *Python* — December 2023

- Implemented a conversational interface allowing users to interact with GitHub repositories using natural language using **Retrieval Augmented Generation** (RAG) techniques.
- Utilized the LangChain framework to streamline document loading, parsing, and code splitting for efficient embedding.
- Integrated **OpenAI's** text-embedding model to embed processed chunks and their GPT-4 model for chat
- Utilized the Chroma's vector database to store and quickly retrieve code chunks during user interactions.
- Applied strict rule-based strategies to guide the chat component through complex problems and to provide multiple perspectives.

NBA Classification Model | *Python* — June 2023

- Developed a machine learning model for NBA game outcomes using classification algorithms, namely **random forest, logit, and XGBoost.**
- Processed and cleaned raw data using Pandas, and designed novel features to enhanced the classification accuracy.
- Implemented grid search cross-validation for hyperparameter tuning to optimize model performance.
- Achieved **70% accuracy** on unseen data and actively working to improve the model.

Neural Network from Scratch | *Python* — April 2023

- Designed and implemented a multi-layer neural network from scratch using NumPy in Python, demonstrating a deep understanding of the principles of neural networks.
- Optimized the network for multi-class classification with ReLU and Softmax activation functions, and cross-entropy for the loss function.
- Implemented **stochastic gradient descent** algorithm with learning rate decay for model optimization, improving the model's learning efficiency and convergence.
- Used a custom spiral dataset for training and validation, demonstrating the model's versatility and effectiveness, achieving **94% accuracy**.

Experience

Computer Science Tutor — Oct 2022 - May 2023

Boston College — *Chestnut Hill, MA*

- Served as a dedicated Computer Science Tutor at Boston College, providing personalized academic support to freshmen students enrolled in Computer Science I and II courses.
- Helped students master a wide variety of content covered in the aforementioned courses beginning with an introduction to programming in Python, through data structures and sorting algorithms in Java.
- Excelled at distilling complex topics into easily understandable content, effectively bridging the gap between student's foundational knowledge and more advanced concepts.

Technical Skills

Languages: Python, Java, C/C++, JavaScript, HTML/CSS, R, SQL
Developer Tools: Linux, Git, VIM, VSCode, Eclipse
Libraries: numPy, pandas, scikit-learn, PyTorch, LangChain