Joseph Anthony Bosco IV

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Education

Washington and Lee University - Class of 2024 — Lexington, VA

Bachelor of the Sciences, Computer Science Major
Overall GPA 3.89 | Major GPA: 3.96

Relevant Coursework: Artificial Intelligence, Generative AI, Machine Learning, Databases, Algorithm Analysis

Extracurricular Activities

- Varsity Wrestling, Academic All-American
- Health and Safety Officer, Pi Kappa Alpha Fraternity, Pi Chapter
- Chapter Organizer, Queer in AI, affinity group of oSTEM
  - Advise LGBTQ+ undergraduates on AI and Computer Science career resources

Programming Languages and Skills

- Proficient: Python, SQL
- Experienced: C, React
- Skilled: Git, AWS, ChatGPT API, BASH, Powershell

Projects

ML Applications in Medicine — Nov. 2023-Current

- Analyzed pre and post-operative knee replacement data using Pandas and created visualization with Matplotlib
- Preformed feature selection using information gain algorithm to rank patient attributes on their contribution to post-op outcome

***ChatGPT Classic*- OpenAI Custom GPT** — Oct. 2023-Jan. 2024

- Developed customized version of standard ChatGPT model, optimizing for enhanced performance in professional assistance
- Employed advanced AI development techniques, including fine-tuning parameters and integrating custom datasets

Kaggle Competition — Nov. 2023

- Created deep learning model for Kaggle.com titanic competition using PyTorch
- Classified target-less data entries with 78% accuracy, finishing in top 25% on competition leaderboard

Personal Website — Feb. 2023

- Designed personal website using HTML and CSS
- Implemented request handling and data collection with SQLite and Python Flask

OpenAI Gym — May, 2022

- Implemented reinforcement learning for OpenAI's Cart Pole and Pendulum environments
- Solved both environments with 1,000 episodes of training to reach maximum reward threshold

Mathematical Image Generator — Oct.-Dec. 2021

- Programmed application in Java to generate images from RGB triples from mathematical expressions
- Collaborated with five peers to implement UI, expression tree and parser: approximately 2,000 lines of code

Experience

Generative AI Engineer, Mock Convention Generative AI Committee — Dec. 2023-Current

- Prepared plain-text dataset of speech and debate transcripts for unsupervised learning
- Finetuned pretrained LLM from HuggingFace.co on custom dataset using PyTorch

Computer Science Department, Washington and Lee University

Teaching Assistant — Sep. 2021-Apr. 2022

- CSCI-111: Introduction to Programming in Python
- CSCI-112: Advanced Introduction to Programming and Data Structures

Summer Research Scholar — Jun.-Sep. 2022

- Surveyed options for how to handle digital footprints when an internet user dies
- Established research base of 95 digital estate management services and summarized prior academic work
- Drafted digital survey, qualitative interview and request for IRB approval

Independent Research under Neuroscience Professor Natalia Toporikova — Jan.-Apr. 2023

- Analyzed laboratory data to make inferences on spider mortality
- Parsed 10,080-row .CSV spreadsheets using Pandas dataframes
- Developed neural net classifier using PyTorch and NumPy with 96% classification accuracy, 0% false negatives