




# Joseph Anthony Bosco IV


## NLP & Predictive Analytics Engineer

Motivated entry-level software engineer with a focus in Natural Language Processing (NLP) and predictive analytics. Aiming to leverage my foundational skills in software development and enthusiasm for data science to contribute effectively to a team. I am seeking an opportunity to enhance my implementation skills by collaborating on innovative projects, aiming to develop reliable solutions for real-world data science challenges.

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 github.com/JackBosco

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 jackbosco.github.io

## EDUCATION

### Washington and Lee University

Bachelor of the Sciences, Computer Science Major  
Overall GPA 3.89 | Major GPA: 3.96  
Class of 2024

### Columbia

Master of Science in Computer Science  
GPA Non-Applicable  
Class of 2025

**Relevant Coursework:** Generative AI, Machine Learning, Databases, Distributed Systems, Parallel Computing

## PROGRAMMING LANGUAGES & SKILLS

### Python



### Java



### C



### ETL: PostgreSQL



### Github



### Linux Environments



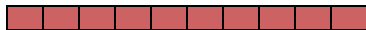
### Machine Learning



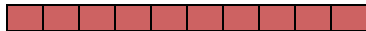
### Feature Extraction



### Collaboration



### Microsoft Office



### Written / Verbal Comms



## PROJECTS

### 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

Sep.-Oct. 2023

- Forked open source repository from NIH Cytomod research initiative on GitHub
- Resolved dependency issues and fixed deprecation errors, submitted PR for review

### Cytomod - NIH Open Source Contributions

Feb 2023

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

### Minecraft Server Hosting

Oct.-Dec. 2021

- Programmed application in Java to moderate personal Minecraft multiplayer world
- Hosted server on AWS EC2 instances

## EXPERIENCE

### Machine Learning Research Assistant, NYU Langone Health

Nov 2023 - Current

- Collaborated with medical professionals to analyze pre and post-operative knee replacement data
- Performed feature selection using Scikit-learn algorithms, performed ML to model patterns from pre to post-operative cases
- Communicated results to research team, demonstrating the ML models effectiveness with Matplotlib

### Generative AI Engineer, Mock Convention Generative AI Committee

Nov 2023=Feb 2024

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

### Multiple Roles, Washington and Lee University

Machine Learning Research Assistant, Dept. of Neuroscience

Jan.-Apr. 2023

- Communicated with neuroscience professionals to suggest ML algorithms for predictive modeling
- Performed feature extraction with Pandas dataframes, collaborating with research team on GitHub
- Developed neural net classifier using PyTorch and NumPy with 96% classification accuracy, 0% false negatives

Data Mining Intern, Dept. of Data Science

Jun.-Sep. 2022

- Collaborated with a team to perform data collection on large database
- Established research base of 95 digital estate management services and summarized prior academic work
- Communicated research results to organize digital survey, qualitative interviews and request for IRB approval

Teaching Assistant, Dept. of Computer Science

Sep. 2021-Apr. 2022

- Advised students taking CSCI-111: Introduction to Programming in Python
- Organized and delivered office hours for CSCI-112: Advanced Introduction to Programming and Data Structures in C

## EXTRACURRICULARS

- Developed team-building skills as a varsity wrestler, earned Academic All-American honors
- Organized social events as Health and Safety Officer of Pi Kappa Alpha Fraternity, Pi Chapter
- Advised LGBTQ+ undergraduates on AI and Computer Science career resources as President of W&L's Queer in AI chapter, affinity group of STEM