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: Computer Organization, Introduction to Robotics, Software Development, Artificial Intelligence, Algorithm Analysis, Theory of Computation, Databases, Computer Graphics, Systems Programming, Linear Algebra (Fall 2023)

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
  - Established chapter at Washington and Lee
  - Advise LGBTQ+ undergraduates on AI and Data Science career resources

Computer Skills and Recent Projects

Programming Languages & Skills
- Fluent: Java, Python
- Working Knowledge: C++, Bash, SQL, HTML, CSS
- Skills: LaTeX, Git, Linux, Visual Studio, Google Compute Engine, Excel, Powerpoint

Ray Tracer — Mar.-Apr. 2023
- Programmed fully functioning ray tracer using NumPy and PyGame
- Developed object models for common geometric shapes in 3D
- Linearly interpolated objects in 3D space to produce 2D image

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

Inkwell eBook Platform — Jul.-Sep. 2023

Software Developer
- Developed the backend for Inkwell's initial website
  - Designed database server using Postgres for storing patron and publisher information
  - Handled HTML requests and served database to frontend using Django
  - Maintained Linux host on remote machine via SSH

Developer Team Lead
- Directed weekly remote meetings with team of nine developers
  - Reviewed team contributions and planned tasks for upcoming week
- Delegated responsibilities to best suit each developer's skill set
- Onboarded and guided new developers through initializing development environment
- Prioritized requests from project manager and motivated team to meet deadlines

Washington and Lee University, Computer Science Department

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 working under Computer Science Professor Taha Khan — 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