

Seth Nye

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EDUCATION

Georgia Institute of Technology, College of Computing
M.S Computational Science and Engineering, GPA: 3.90

December 2024

University of Georgia, College of Computing
B.S Computer Science w/ Honors, GPA: 3.97

December 2022

TECHNICAL SKILLS & RELEVANT COURSEWORK

Languages: Python, C/C++, Java, JavaScript, HTML/CSS, SQL (MySQL)

Frameworks: React, Node.js, Express

Developer Tools: Git, Docker, GDB, VS Code

Libraries: Pytorch, Pytorch Geometric, Scikit-learn, Sci-Py, Pandas, NumPy, Matplotlib

Coursework: Systems programming, data structures, algorithms, computational data analysis, deep learning, machine learning, modeling and simulation, distributed computing systems, cyber security, computer networks, database management

PROJECTS

AI for Protein Function Prediction, CSE8803 - Graph Machine Learning | [Project Link](#)

Sep 2023 - Dec 2023

ML Developer | Tools: Python, Bash, Linux, Pytorch, Git

- Developed a graph convolutional neural network for the prediction of protein functions to reduce drug discovery costs.
- Adapted a Tensorflow model to utilize PyTorch improving the runtime by 32% and achieving comparable accuracy of 90.5%.
- Developed Python and bash scripts for a data pipeline to transform raw protein sequence data from the AlphaFold database into digestible graph data via multi-hot encodings and contact maps.

FTP Server & Client, CSCI4780 - Distributed Computing | [Project Link](#)

Jan 2022 - Feb 2022

Software Engineer | Tools: Java, Unix, Git

- Led a team of 3 to develop a multithreaded file transfer protocol server and client, ensuring project workstreams remained on track and on-time completion.
- Implemented concurrency and maintained data integrity during critical sections by leveraging thread-safe logic and synchronization.
- Deployed and tested servers/clients on Unix computing clusters.

Multicast System, CSCI4780 - Distributed Computing | [Project Link](#)

Feb 2022 - Mar 2022

Software Developer | Tools: Java, Unix, Git

- Built an asynchronous multicast messaging service (similar to WhatsApp) with temporally-bound persistence.
- Implemented multi-threading and offline support for communication with subscribed clients on different servers to ensure users can receive messages in the order and time in which they were sent when coming back online.
- Initiated production testing of coordinator/subscribers on Unix computing clusters.

Cache Simulator, CS6290 - High Performance Computing Architecture

Feb 2024 - Mar 2024

Software Developer | Tools: C++, Bash, Linux, GDB, Docker

- Developed a cache simulator to test various cache configurations used in modern high-performance computer architecture.
- Simulated cache using a driver program and measured results by tracking cache hits and misses to accurately calculate efficiency.
- Utilized a bash script to automate the sequence of experiments with different cache configurations, completely eliminating the need to manually run each test.

WORK EXPERIENCE

University of Georgia

Athens, GA

Teaching Assistant

Sep. 2022 – Dec. 2022

- Held dedicated office hours to assist over 500 students in learning data structures, algorithms, and Java best practices.
- Developed grading scripts for student projects in Java with JUnit on a Unix operating system, reducing manual efforts by 80%+.

Grady Health System

Atlanta, GA

EMT | Internship

June 2019 - Aug. 2019

- Assisted paramedics and ER staff with patient assessments, vital signs monitoring, and administering basic life support (BLS)
- Developed hands-on skills in providing emergency medical care and patient transport in high-pressure situations