**Samuel L. Lothrop**

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EDUCATION

**Miami University** Oxford, OH

*B.S in Computer Science | GPA: 3.31*

*Club/Activities: Miami Cybersecurity Club, Co-ed Volleyball, Co-ed Broomball, Miami Water Ski Team*

*M.S in Computer Science*

*Club/Activities: Miami Cybersecurity Club, Co-ed Volleyball*

EXPERIENCE

**Miami CTF** Oxford, OH

*Developer/Tester*

* Study and apply the inner workings of cyber security subsections into CTF (capture the flag) challenges
* Efficiently document and report findings/challenges within git lab along with an ubuntu server
* Taught incoming college students the fundamentals and importance of cybersecurity through presentations and application demonstrations
* Represented the schools Cybersecurity club, hosting a school wide CTF event

**Shelf Inc.** Oxford, OH

*Software Engineer/Project Manager*

* Worked within a team to design and produce a library catalog using an agile development plan
* Managed primary communication between team and customer
* Organized times/tasks and designed diagrams for front-end and back-end development
* Built the front-end design of the library catalog along with the database structure

PROJECTS

**Human Benchmark Cheat Bot |** *Python, Selenium, OCR* September 2024 - Present

* Developed web automation system using Python, Selenium, and OCR for data extraction and entry
* Implemented image preprocessing algorithms to enhance OCR accuracy for numerical recognition
* Integrated web scraping capabilities for interacting with dynamic web pages and automating data re-entry

**Brain Tumor Detection** January 2024 – February 2024

* Built CNN-based program in Python for brain tumor detection/classification from MRI scans
* Implemented data preprocessing pipelines for MRI image data, augmentation, and tensor conversion
* Designed, trained, optimized CNN architecture for accurate brain tumor type classification

**Optical Network Simulation** March 2023 – May 2023

* Built Python simulation for optical network performance modeling with varying wavelengths.
* Implemented wavelength allocation, packet tracking, and resource update algorithms.
* Analyzed simulation data to visualize wavelength vs. connection blocking probability.

TECHNICAL SKILLS

**Languages:** Java, HTML, CSS, JavaScript, MySQL, NoSQL, SAS, Python, R, C++, PHP, AJAX

**Frameworks:** React, Flask, TensorFlow, PyTorch, Scikit-learn, Unity

**Developer Tools:** Gitlab, Docker, MySQL Workbench, Jupyter Notebook, VS Code, R Studio, Google Colab

**Libraries:** pandas, torch, NumPy, Matplotlib