

# LAURENCE R. MULLEN

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## EDUCATION

### Bachelor of Science in Computer Science, Cum Laude

August 2018 - May 2022

University of Florida, Gainesville, FL

- Minor in Environmental Science
- Cumulative GPA: 3.77/4.0
- Coursework: Data Structures and Algorithms, Databases, Data Science, Design Patterns and OOP, Networking, Operating Systems, Computer Security, Statistics, Numerical Analysis, and Performant Programming in Python

## TECHNICAL SKILLS

**Languages:** Python, C++, C, Java, JavaScript, HTML/CSS, SQL, Julia, R, MatLab, Bash

**Frameworks & Libraries:** React.js, Express.js, Flask, Qt, NumPy, SciPy, Scikit-learn

**Tools:** Git, Docker, Ansible, Linux, WSL, Node.js, MongoDB, CMake, Nginx, Postman, Visual Studio

## EXPERIENCE

### Freelance Web Developer | JavaScript, HTML, CSS, React.js, Flask, SQL

August 2021 - Present

- Developed feature-rich and secure websites and a full-stack web application in the yachting industry
- Utilized languages and frameworks including HTML, CSS, JavaScript, React.js, Python, Flask, and SQL
- Communicated frequently with clients to ensure that requirements and features were built to satisfaction

## PROJECTS

### Self-taught "Homelab" DevOps Engineer | Ubuntu, Raspbian, Python, Bash

January 2019 – Present

- Automatically set up environments using Ansible and deployed containerized applications with Docker
- Reverse-proxy network using Nginx, SSL/DNS supported by Cloudflare, and remotely linked storage with Gsuite
- Host websites, game servers, media, and more while ensuring optimal uptime and performance for users

### Symmetry Trap (Undergraduate Research) | C++, Qt

- Developed a plugin for the UF BRIO lab to aid research on Automated Model-Image Registration of Kinematics
- Implemented using C++ with Qt and VTK for the GUI, and OpenCV, cuDNN, and libtorch toolkits
- Used linear algebra concepts to replace a brute force algorithm, reducing runtime by 98.5%
- Planned sprints and created high-quality UML diagrams, documentation, and presentations

### Activist Agenda | JavaScript, React, Node.js, MongoDB

- Collaborated in a team to develop a full-stack web application in support of the Black Lives Matter movement
- Built using the MERN stack and deployed on Heroku, and implemented email and geocoding APIs
- Gained experience in Agile development, documentation, and client communication through this project

### AlgoRythm | Python

- Created a customizable real-time audio visualizer that dynamically changes based on the song and cover art
- Built using the PyGame GUI framework and PyAudio, NumPy, and SciPy for performant data processing
- Implemented Windows media and Spotify API integration, as well as various GUI elements
- Optimized code performance and readability using polymorphic OOP concepts for different visualizer styles

### GaTorr | Java

- Developed a peer-to-peer file sharing program with a custom message protocol over TCP
- Designed peers to dynamically choke neighbors, communicate interest, make requests, and track file pieces