# 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, Qt, NumPy, SciPy, Scikit-learn
**Tools:** Node.js, Git, Docker, Ansible, Linux, WSL, MongoDB, CMake, Nginx, Postman, Visual Studio

## EXPERIENCE

**Freelance Web Developer |** JavaScript, HTML, CSS, React.js, SQL **August 2018 - Present**

- Contracted to develop modern, secure, and feature-rich websites for various companies and individuals
- Created websites and full-stack web applications utilizing JavaScript, CSS/HTML, Node.js, React.js, and SQL
- Communicated frequently with clients to ensure that requirements and features were built to satisfaction

**Amateur "Homelab" DevOps Engineer |** Ubuntu, Raspbian, Python, Bash **January 2019 – Present**

- Automatically setup environment using Ansible and deploy containerized applications using Docker
- Reverse-proxy network using Nginx, SSL/DNS supported by Cloudflare; remotely linked storage with Gsuite
- Host websites, game servers, media, and more for friends and family; ensure optimal uptime and performance

## PROJECTS

**Symmetry Trap (Undergraduate Research) |** C++, Qt **January-April 2022**

- Created plugin to aid the UF BRIO lab in researching Automated Model-Image Registration of Joint Kinematics
- Written in C++ utilizing Qt and VTK for GUI, and OpenCV, cuDNN, and libtorch toolkits
- Replaced a brute force algorithm using linear algebra concepts, reducing runtime to 1.5% of previous time
- Planned sprints and created quality UML diagrams, documentation, and presentations

**GaTorr |** Java **August-December 2021**

- Peer to Peer file sharing program with custom message protocol over TCP based on the BitTorrent protocol
- Peers dynamically choke/unchoke neighbors, communicate interest, make requests, and track file pieces

**AlgoRythm |** Python **May-July 2021**

- Extensively customizable real-time audio visualizer that changes dynamically based on the song and cover art
- Built on the PyGame GUI framework, it utilizes PyAudio, NumPy and SciPy for performant processing of data
- Responsible for Windows media and Spotify API integration, and implementation of GUI elements
- Optimized code performance and readability using polymorphic OOP concepts for different visualizer styles

**Activist Agenda |** JavaScript, React, Node.js, MongoDB **June-August 2020**

- Collaborated in a team to develop a full-stack web application in support of Black Lives Matter movement
- Built using MERN stack and deployed on Heroku; implemented email and geocoding APIs
- Gained experience planning Agile development sprints, writing documentation, and communicating with a client