

EDUCATION

Lexington, KY	University of Kentucky	Expected: May 2023
<ul style="list-style-type: none">- Major: Computer Science, Mathematics B.S. (GPA: 3.87)- Key Courses: Linear Algebra, Probability, Calculus 1-4, Engineering Programming, Physics I, Programming in C, Frontiers in Artificial Intelligence, Algorithms and Data Structures, Statistics, Numerical Methods- Key Skills: C, C++, Python, CUDA, Databases, Go, Graphics Programming, OpenGL, Artificial Intelligence, JavaScript, Optimization, Imaging. Parallel Programming		

EMPLOYMENT

Engineering Intern	Twitich Interactive / Amazon	June 2021 – Aug. 2021
<ul style="list-style-type: none">- Expanded streaming services for mobile gaming by developing APIs in Go- Interacted with creators to develop android apps that will make streaming easier on mobile devices		
Controller Integration Engineering Co-op	Intel Corporation	Oct. 2020 – May 2021
<ul style="list-style-type: none">- Wrote automated test simulations for the Simics platform in C and Python- Debugged and validated various processor configurations simulated via FPGA- Mastered the Linux kernel to be able to debug, validate, and test processor firmware		
Software Engineer	University of Kentucky	May 2019 – July 2020
<ul style="list-style-type: none">- Improved faculty data comprehension by creating a data visualization web app in PHP, JavaScript, and SQL- Automated faculty job search process by using Python to parse new applicants, saving 2 hours daily- Integrated Docker into applications department wide while co-leading a project to revitalize department DevOps- Integrated new code review automation and management system using version control and GitLab		

EXTRA-CURRICULAR

Embedded Systems Team	UK Solar Car Team	Aug 2019 – Present
<ul style="list-style-type: none">- Helped with development of the embedded systems within the car such as RTOS, sensors, and microprocessors- Contributed to the development of the real-time operating system- Improved reliability of steering wheel by designing detachable throttle/brake daughter boards using Eagle PCB		
Smart Manufacturing Research Assistant	University of Kentucky	Jan. 2020 – May 2020
<ul style="list-style-type: none">- Developed a convolutional neural network for part prognosis in additive manufacturing in Pytorch- Wrote custom classes to handle large datasets with labelling and annotation for easy analysis- Used CUDA acceleration to create fast and efficient models and datasets		
Biomedical Imaging Lab Assistant	University of Kentucky	Mar. 2020 – Oct. 2020
<ul style="list-style-type: none">- Assisted with optimization of imaging device that renders real-time model of patient blood flow / hemodynamics- Optimized computation time of imaging device by over 300% using CUDA GPU acceleration in MATLAB- Developed a LSTM recurrent neural network in Pytorch that mapped cerebral blood flow to intracranial pressure		

PERSONAL PROJECTS

Shader Engine: https://github.com/brennengreen/Shaders
<ul style="list-style-type: none">- Used OpenGL Shading Language (GLSL) to create efficient and aesthetically pleasing shader- Created a robust and efficient graphics pipeline using OpenGL- Developed an interactive windowing system using GLFW so users could explore shaders in real time
Mandelbrot Fractals in OpenGL: https://www.brennengreen.dev/blog/posts/1/
<ul style="list-style-type: none">- Created interactive visualizations of the Mandelbrot Set fractal in the core profile of OpenGL- Used C++ to create an interactive program that allowed the user to explore the fractal in real time- <u>Utilized:</u> C++, GLSL, OpenGL, Shader Development, Graphics Pipeline, Simulation
GoList (Craigslist Web Scraper in Go): https://github.com/brennengreen/golist
<ul style="list-style-type: none">- Implemented a web scraper that scrapes posting data from a craigslist category- Used Golang's PostgreSQL implementation to categorize all postings in a SQL database- Maintained an active server for utilizing the web scraper and database using Heroku- <u>Utilized:</u> Algorithms, SQL / PostgreSQL, Databases, Heroku, Twilio, Go, and Web Scraping