

Russell Newton

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MSCS student at Georgia Tech looking for internships in Computer Graphics and Real-Time Rendering.

Education

Master of Science, Computer Science

Concentration: Computer Graphics

Georgia Institute of Technology (January 2023 to Expected May 2024)

Bachelor of Science, Computer Science

Concentrations: Artificial Intelligence, Computer Simulations

Georgia Institute of Technology (August 2020 to December 2022)

Graduated with Full Honors

Skills

Languages/Frameworks: C/C++, Unreal Engine, HLSL, Unity, Python, Java

Applications & Theory: Computer Graphics and Animation; AI, RDG, and Blueprints in Unreal Engine; Algorithm Design and Analysis; Multithreaded Programming; High-Performance C++ and CUDA Optimization

Mathematics: Linear Algebra, Multivariable Calculus, Differential Equations

Interpersonal: Leadership, Communication, Project Planning & Execution, Instructing, Mentoring

Experience

August 2023 to Present: Graduate Research Assistant, Shape Computation Lab, Georgia Tech

Atlanta, GA

Overhauling the codebase of the first ever true shape grammar interpreter, Shape Machine. Analyzing dense, undocumented code and replacing it with object-oriented, documented code. Enabling interfacing Shape Machine with other programs than the initially developed-for CAD program, Rhinoceros. Implementing new features related to shape recognition, embedding, and replacement. Optimizing slow code by recreating algorithms with complexity in mind.

January 2023 to May 2023: Graduate Teaching Assistant, Georgia Tech

Atlanta, GA

Specifically requested by the professor to be a GTA for CS 4510: Automata & Complexity. Required strong understanding of topics in theoretical computing including automata, regular expressions, context-free grammars, Turing machines, complexity analysis, and reductions. Praised by students for clear and enlightening explanations of course topics.

June 2022 to December 2022: Software Engineering Intern, ScienceLogic

Reston, VA

Worked to improve data collection for an IT Operations infrastructure platform. Restructured, improved, and tested old code to improve product longevity. Developed utilities to easily switch between Python interpreters and imported members mid-execution. Praised by team for ability to work well under pressure and to learn and adapt quickly.

January 2022 to May 2022: Undergraduate Teaching Assistant, Georgia Tech

Atlanta, GA

UTA for CS 3510: Design and Analysis of Algorithms. Required strong understanding of various algorithm design paradigms including divide-and-conquer, dynamic programming, and graph algorithms as well as runtime and space complexity analysis and reductions.

Project Spotlight

Project Abyss Demo

Lead developer for a demo co-op arena shooter created as a pitch for the Savannah College of Art and Design VGDev Senior Capstone, intended to convince the class to develop a full version of the game. Worked with artists to incorporate models, VFX, and SFX into the demo. Created enemy AI including a custom EQS filter, weapons, and network-replicated movement modes. Will serve in an advisory capacity if Project Abyss is chosen to be made into a full game.

RDG CS 4795 Final Project Port | [GitHub](#)

A port from Unity to Unreal Engine 5 of the most important features of my final project created for CS 4795: GPU Programming for Video Games. Utilizes the RDG to queue vertex and fragment shaders and texture extraction.

Not Malware Game | [Game Page \(itch.io\)](#)

Lead the development of a dungeon-crawler with four other students for GT CS2340: Objects and Design. Recognized by the professor and class as one of the best three games out of the 114 for the Spring 2021 semester. Made with JavaFX.

Leadership

August 2021 to July 2023: Georgia Tech Rainbow 6: Siege Team Representative

Atlanta, GA

Maintaining the GTR6 community by organizing meetings and matches, coordinating with GT Esports's staff, and strengthening coordination and communication between team members.

August 2016 to May 2020: FIRST Robotics Competition Team 2974

Marietta, GA

Participated as an influential programmer, including one year as Lead Programmer, for Walton High School's FRC team. Developed a motion profiling library recognized by several world-class teams for reliability, as well as many other tools used by the team for 3+ years. Praised by coach and mentors for leadership and communication skills.

July 2019: Eagle Scout, Boy Scout Troop 795

Marietta, GA

Conceptualized a personal community service project with the National Park Service over the course of two months and led several volunteers in the removal and replacement of a bridge at a local hiking trail. Participated in National Youth Leadership Training and held various troop-level leadership roles.