

# Russell Newton

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MSCS student at Georgia Tech concentrating and looking for internships in Computer Graphics.

## Education

### Master of Science in Computer Science

Georgia Institute of Technology (January 2023 to Present)

Expected Graduation: May 2024

Concentration: Computer Graphics

### Bachelor of Science in Computer Science

Georgia Institute of Technology (August 2020 to December 2022)

Graduated with Full Honors (GPA: 3.87/4.0)

Concentrations: Artificial Intelligence and Modeling & Simulations

## Skills

<b>Languages:</b>	Python, Java, C/C++, GLSL, HLSL
<b>Frameworks/Tools:</b>	Pytorch, Tensorflow, Keras, Unity, MySQL, Docker, GitHub Actions
<b>Skills/Theory:</b>	Computer Graphics, Computer Vision, AI/ML, Algorithm Design/Analysis
<b>Mathematics:</b>	Linear Algebra, Multivariable Calculus, Differential Equations
<b>Interpersonal:</b>	Leadership, Communication, Project Planning/Execution, Instructing, Mentoring

## Experience

### January 2022 to Present: Graduate Teaching Assistant, Georgia Tech

Atlanta, GA

Specifically requested by the professor to be a GTA for CS 4510: Automata & Complexity. Requires strong understanding of course topics: languages, deterministic and nondeterministic finite automata, regular expressions, grammars, Turing machines, and runtime and space complexity analysis and reductions.

### 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 course topics: divide-and-conquer, dynamic programming, and graph algorithms; and runtime and space complexity analysis and reductions.

## Project Spotlight

### TikTokPy | [GitHub](#) | [PyPI](#) | [ReadTheDocs](#)

A TikTok data scraper built with Playwright and Pydantic.

### DuckyLighting | [GitHub](#)

A custom lighting engine created for the Ducky One 2 RGB 100% written in Python. Runs on Windows as a system tray application. Utilizes Windows API hooks, data collected from WireShark, and an expandable driver.

### MultiTouch | [GitHub](#) | [Website](#)

Worked with four other students to create a low-level multitouch gesture recognition library in C for L3Harris. Includes a C library that interfaces with input devices via custom data adapters and with applications through a simple API and includes a webapp built with Vue and Emscripten to demo the library. Commended by client for leadership and communication skills.

### Not Malware Game | [Game Website](#)

Was project lead for an original dungeon-crawler created in Java 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.

### StatiCat | [GitHub](#)

A custom Discord bot developed in Python featuring image manipulation, dynamic module loading, custom metaclasses and decorators, web scraping with Playwright, and auto-saving configuration tools.

## Leadership

### August 2016 to May 2020: FIRST Robotics Competition Team 2974

Marietta, GA

Participated as an influential programmer for Walton High School's FRC team. Served for one year as Lead Programmer, managing and organizing the development of the codebase for the season's robot.

- Co-developed a motion profiling library recognized by several world-class teams for reliability.
- Created a tool that interpolates data with 2 degrees of freedom with Delaunay triangulation, used for 3+ years.
- Enabled several other teams to play at competitions by helping them write and debug code over three 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.