Colin J. Hartigan

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Objective

Computer engineering major, concentrating in computing hardware, emerging architectures, and embedded devices. Seeking a software engineering internship for May - August 2023.

Education

Georgia Institute of Technology | Atlanta, GA *August 2022 - Present*
Bachelor of Science in Computer Engineering, GPA 3.42/4.0 Expected Graduation, May 2026

Skills

Programming & Frameworks: Python (Flask, PyTorch, NumPy), JavaScript (React, Material UI), HTML/CSS (TailwindCSS), C++ (Arduino), Lua
Hardware: Raspberry Pi, Arduino
Software: Visual Studio Code, GitHub, Arduino IDE
Languages: English (native), Spanish (conversational)

Experience

Johns Hopkins Applied Physics Laboratory (APL), Laurel, MD
Nation's largest university research center supporting U.S. government technology development programs and national priorities.
ASPIRE High School Intern, Space Exploration Sector *October 2021 - May 2022*

- Researched and built artificial intelligence systems, utilizing weather satellite data, to predict and visualize the spread of water-borne illnesses
- Leveraged multithreaded concurrent programming in Python to increase efficiency of data processing using Pandas (data analysis library)
- Trained AI model with TensorFlow machine learning platform

ASPIRE High School Intern, Research and Exploratory Development Department *October 2020 - May 2021*

- Wrote CNC G-code parsing and visualization software in Python for circuit-producing, additive manufacturing printer
- Filed an intellectual property disclosure at APL due to originality and utility of software as a debugging tool

Sandy Hill Camp and Retreat Center, North East, MD
Regional youth outdoor summer camp focused on team building and skills development
Counselor *Summer 2021 & 2022*

- Supervised and led groups of 12 pre-teenagers at weeklong sleep-away camp
- Taught courses in team building, outdoor skills, music, and sports to 20-30 students

Projects

VALORANT Inventory Manager *September 2021 - Present*
Application for the video game VALORANT written in JavaScript and Python used to manage a user's inventory of virtual cosmetic items. Implements additional features not found in the game including cosmetic randomization and a more intuitive user interface/experience.

- Identified community's desire for improved customization and created a solution as a solo developer
- 230,000+ downloads, 20%+ user retention rate, global userbase (< 10% of users reside in United States)
- Designed and built frontend using React and Material UI
- Implemented a custom application-game communication protocol using websockets (Python) and HTTP requests

Notable Coursework

Digital System Design: Switch and gate design, Boolean algebra, number systems, datapath, instruction set architecture
Linear Algebra: Eigenvalues, eigenvectors, applications to linear systems, least squares, diagonalization, quadratic forms

Extracurriculars

The Hive Makerspace (student-run workspace for engineering projects)
Peer Instructor (in training) *January 2023 – Present*

- Instruct and assist other students in operating tools and machinery, maintain space and equipment