

# Liam Murphy

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## EDUCATION

**Binghamton University, State University of New York, Thomas J. Watson College of Engineering and Applied Science**

*Bachelor of Science in Computer Science*

**Expected May 2024**

Major GPA: 3.44/4.00 | Cumulative GPA: 3.46 /4.00

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## TECHNICAL SKILLS

**Languages:** Java, C++, C, X-86 Assembly, Python, HTML, CSS

**Software and OS:** Git, Logisim, Linux, Vim

**Relevant Coursework:** Data Structures and Algorithms, Computer Architecture, Discrete Mathematics, Automata Theory

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## WORK EXPERIENCE

**GreenLight Networks, Field Tech Internship** | Rochester, NY

**June 2022 - August 2022**

- Contributed to Greenlights presence in Rochester by adding new points of contact to their network and assisting with installations
- Assisted in the provisioning of Optical Network Terminals as well as the construction of Greenlights fiber-optic network
- Communicated with Greenlight customers to promote customer satisfaction
- Contributed to Greenlights success by connecting hundreds of new customers and helping break three consecutive monthly records

**AeroSafe Global, Engineering Internship** | Rochester, NY

**June 2021 - August 2021**

- Assisted in the production and testing of vacuum-insulated packages for Pfizer, Merk, and NASA
- Performed sublimation testing, incoming quality inspections, and qualified new tests to help prevent excursions
- Created new organizational procedures to improve efficiency for the Procurement and Engineering departments
- Contributed to AeroSafe landing contract with Pfizer and Merk to distribute Covid-19 vaccines across the United States

**Monroe Golf Club, Lifeguard** | Pittsford, NY

**June 2017 - August 2020**

- Ensured the safety and well-being of members
- Assisted in the supervision and maintenance of the pool area

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## PROJECT EXPERIENCE

**C Programmer, Independent Project** | Binghamton, NY

**March 2022 - April 2022**

- Used Bit Manipulation to convert IEEE doubles to varying-size floating-point numbers based on input
- Implemented a method of using Bit Manipulation to make the conversion, managed with the GitHub Version Control System
- Successfully converted IEEE doubles to arbitrarily sized IEEE floating point numbers based on input

**Java Programmer, Independent Project** | Binghamton, NY

**November 2021 - December 2021**

- Programmed a method of searching and sorting input text files with a GUI
- Assembled the data with selection sort, measured the run time of adding and searching the data to linear and non-linear data structures

**C/x86 Programmer, Independent Project** | Binghamton, NY

**February 2022 - March 2022**

- Performed a simulated buffer overflow attack on a C program to change the data being entered into an array without being detected
- Programmed a script in x86 that would overflow the buffer of a target function, change the data, and then return to the next function
- Successfully altered the program to change the data without detection

**x86/GDB Programmer, Independent Project** | Binghamton, NY

**February 2022 - March 2022**

- Successfully diffused the Binary Bomb by completing a series of puzzles hidden in the x86 code
- Operated the GDB debugger to step through the disassembled program to figure out how to pass the different phases
- Completed the project without blowing up the Binary Bomb

**Python Programmer, Independent Project** | Binghamton, NY

**December 2020**

- Programmed a method of extracting data from different JSON files using APIs that sent an email with the current number of covid cases
- Accessed data stored in JSON files using different API's then sent the email using python's mailer library
- Presented the final result of the project to a class of 50 people

**Python Programmer, Team Member** | Binghamton, NY

**November 2020 - December 2020**

- Programmed a playable space invader spin-off game using the python Pygame library
- Managed the front-end and back-end of the program making sure everything worked together
- Presented a demo of the game to a class of 50 people

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## LEADERSHIP EXPERIENCE

**Binghamton University Men's Swimming and Diving Team, Division 1 Athlete** | Binghamton, NY

**August 2020 - Present**

- Training 20 hours a week to compete and be successful while fostering a positive environment for the team to thrive
- Earned a total of ten top-three finishes with four first-place finishes at the America East Conference Championships
- Recipient of the 2022-23 America East Men's Swimming & Diving All-Academic Team award.

**Binghamton University Student-Athlete Advisory Committee, Member** | Binghamton, NY

**February 2022 - Present**

- Participate in educational meetings and assist in the planning and execution of sponsored events
- Advocated for mental health awareness and equality for the America East Conference

**HackBU, Member** | Binghamton, NY

**February 2022 - Present**

- Participate in weekly skill-building workshops in the field of computer science
- Build relationships with other students interested in computer science