

Ka Long Ngai

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Education

SUNY Stony Brook University

Expected Graduation May 2026

Bachelor of Science in Computer Science

GPA: 4.0

Awards: Outstanding Academic Awards (3x recipients), Dean List (3x recipient)

Relevant Coursework: Systems Fundamentals I/II, Fundamentals of Software Development, Data Structures & Algorithms

Experiences

Cohesive Robotics

Brooklyn, NY

Software Engineer Intern

June 2024 - Present

- Implementing significant enhancements to the Human Machine Interface (HMI) for a smart finishing robotics workcell using the Qt framework in C++. These improvements include the addition of a summary table (QTable), a progress bar (QProgressBar), and various other features, resulting in a 30% improvement in user experience
- Conducting regression testing and system integration testing for an automated workstation, which included robotic arms implemented with ROS2, reducing the chance of failure by 10% through bug fixes and the addition of unit tests and integration tests
- Maintaining a C++ and Python codebase that contains 30k-50k lines of code, which include migration to newer framework that is long term support (LTS)
- Investigating tools such as linters and formatters, including clang-tidy, cpp-format, and cpp-linter, to improve code safety, performance, and readability by 20%

Residence Hall Association

Stony Brook, NY

RHA Senator

September 2022 - May 2024

- Participated in weekly meetings, including RHA and Hall Council meetings, which provided engaging activities for the hall's residents, with over 100 attendees
- Reported information between the Residence Hall Association and Hall Council, conducting effective communication between the two organizations
- Voted for more than 10 candidates for executive positions through active discussion and debate, resulting in the selection of the most qualified candidate

Projects

[Fake Stack Overflow](#)

November 2023 - December 2023

- Created a web app mimicking 15 Stack Overflow features with a secure RESTful API. User accounts are protected using bcrypt and express session, ensuring confidentiality and integrity for 90% of API requests
- Used React.js for Front End Framework; Node.js, Express.js for Backend Framework; MongoDB for Database

[Spotify Shuffle Algorithm](#)

January 2023 - March 2023

- Created shuffle algorithm that shuffle a Spotify playlist effectively and efficiently by measuring the program runtime and the listening to the shuffled playlist which improves the overall listening experience by 30%
- Used Java as the primary language, Node.js and Bash to retrieve and update data using Spotify API, along with Git as version control

[Weather Report Bot](#)

October 2022 - November 2022

- Developed a Discord Bot that generates weather reports based on user-specified locations, effectively increasing the accessibility of weather reports for users by 20%
- Used JavaScript as the primary language, Node.js framework specifically along with Git as version control

Technical Skills

Languages: Java (advance), C/C++ (advance), Python (intermediate), JavaScript (intermediate), Bash (novice), OCaml (novice)

Web Technologies: HTML5, CSS3, React.js, Node.js, Express.js, RESTful APIs, JSON

Databases: MySQL, MongoDB

Tools & Platforms: Git, Docker, Debian Linux, Agile Methodology, Waterfall Methodology, Scrum