Ka Long Ngai

Brooklyn, NY | (347) 458-1182 | kalongngai.kln@gmail.com | Portfolio | Github | Linkedin

EDUCATION

Stony Brook University **Stony Brook, NY**

Bachelor of Science in Computer Science - GPA 4.0 *Expected December 2025*

Relevant Coursework: Fundamentals of Software Development, Natural Language Processing, Data Structures and Algorithms

Awards: Outstanding Academic Awards (5x recipients), Dean List (5x recipient)

TECHNICAL SKILLS

Languages: Java, C++, C, Python, JavaScript, TypeScript, Bash, SQL, Lua

Web Technologies: HTML, CSS, React.js, Node.js, Express.js, Next.js, RESTful APIs, JSON, bcrypt, React Router

Other Technologies: Numpy, Pandas, PyTorch, Qt, ROS2

Databases: MongoDB, MongoDB, SQLite

Tools & Platforms: Git, Github/Gitlab, Docker, Unix/Linux, Microsoft Azure, DigitalOcean, Roblox Studio

Methodologies: Design Pattern, Agile, Waterfall, SCRUM, Software Engineering, DevOps, CI/CD

EXPERIENCES

Stony Brook University College of Engineering and Applied Sciences **Stony Brook, NY**

Data Structures & Algorithms Teaching Assistance *January 2025 - Present*

- Leading an one-hour recitation for 30 students on data structures and algorithms in Java, reinforcing key concepts through creative examples and collaborative discussions
- Holding a total of five office hours each week to ensure students get the help they need to succeed in the class
- Responding to emails and Piazza forum posts daily to provide timely assistance and clarify course assignments and material

Cohesive Robotics **Brooklyn, NY**

Software Engineer Intern *June 2024 - August 2024*

- Enhanced the HMI for a smart finishing robotics workcell utilizing C++ with the Qt framework by renovating UI elements, improving UI logic, and reducing clicks, resulting in a 30% increase in operators' experience
- Performed rigorous regression and system integration testing on a ROS2-based 6-axis robotic arm by simulating end-to-end operator scenarios, reducing failure risk by 10% through bug fixes and the addition of unit tests
- Maintained a 50,000 lines C++ and Python codebase, migrated to a newer LTS framework, and improved code by rewriting illogical sections and simplifying implementations with advanced data structures and algorithms
- Implemented linters/formatters like clang-tidy, cpp-format, and cpp-linter, improving code safety and readability by 20%

PROJECTS

Author's Sentiment Analysis, AI Software Engineer **October 2024 - December 2024**

- Trained a DistilBERT-based AI model to analyze author sentiment toward target entities, enabling identification of entities and detection of author bias within documents
- Used Python and its extensive libraries, including Pandas, PyTorch, and NumPy, to create innovative training methods

Charla Chat Server, Software Developer **April 2024 - May 2024**

- Developed a chat server to handle user requests (login, logout, send messages, view users) using a thread-based server model for efficient user communication and management
- Utilized C and its language features, such as mutex, and semaphore, to ensure reliable execution in a multithreaded environment

Fake Stack Overflow, Software Developer **November 2023 - December 2023**

- Created a web app replicating 15 Stack Overflow features with a secure RESTful API, implementing bcrypt and express sessions to protect user accounts and ensure confidentiality for 100% of API requests
- Selected React.js for Front End Framework; Node.js, Express.js for Backend Framework; MongoDB for Database

Spotify Shuffle Algorithm, R&D Developer **January 2023 - March 2023**

- Developed an optimized shuffle algorithm for Spotify playlists, improving listening experience by 30% through analysis of listening habits and runtime efficiency
- Applied Java along with its object-oriented features, Node.js, and Bash, to retrieve and update data using the Spotify API