Leo J. Gong

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EDUCATION

Carnegie Mellon University **Aug 2023-May 2027**

B.S. Computer Science and Arts *Pittsburgh, PA*

- **Related Courses**: Computer Systems, Data Structure and Algorithms in C, Artificial Intelligence, Functional Programming, Machine Learning
- **Skills**: Java, C++, C, Python, R, JavaScript, JSON, OpenCV, Go, SQL, Software and Hardware Compatibility

WORK EXPERIENCE

Stanford National Accelerator Laboratory **Jun 2025 – Aug 2025**

Software Developer Intern *Menlo Park, CA*

- Designed and shipped an MBES endstation GUI (Python, PyDM/PyQt) that aggregates dozens of EPICS PVs with tabbed views, alarm widgets, and a one-click "Ready for Beam" macro to reduce screen-hopping and setup friction.
- Implemented an Interlock status GUI with traffic-light states, latched-fault details, and improved fault tolerance.
- Created a camera misalignment detector (OpenCV) using reference-frame diff/key-point matching to flag bumped/moved cameras; publishes EPICS alarms / chat notifications and includes a baseline-recalibration utility.
- Collaborated with instrument scientists to gather requirements, iterate UI/UX from field feedback, and document deployment/usage; wrote smoke tests and scripts for repeatable installs.

IntBot **Dec 2024 – Jan 2025**

Software Developer Intern *Sunnyvale, CA*

- Collaborated with an AI startup to enhance the responsiveness and personality of interactive bots for the service industry, leveraging Python, JSON and TypeScript to create a more human-like user experience, displayed in the Consumers Electronics Show (CES) of January 2025.
- Designed and refined dynamic facial expression systems, aligning visual responses with emotional contexts to create a lifelike and engaging presence. Demoed in the CES 2025 with positive feedback from investors.
- Optimized animations and developed emotion-driven expressions, improving bot interaction quality

Zeitro **June 2024 – Aug 2024**

Software Developer Intern *Santa Clara, CA*

- Tested and debugged frontend sections of Zeitro's website for Windows compatibility.
- Developed an interactive chatbot for the website to link messages directly to Slack chat rooms

PROJECTS

CS Application Projects **15-213 Computer Systems**

- Wrote a cache simulator that simulates the hit/miss behavior of a cache on valgrind memory traces.
- Wrote an implementation of malloc and free to dynamically allocate memory.
- Wrote a Linux shell that handles signals, built in commands, foreground/background jobs, and I/O.
- Developed a multithreaded web proxy server capable of handling HTTP/1.0 GET requests concurrently.
- Implemented a multithreaded file system, supporting file creation, deletion, reading, and writing operations.

AI Projects **15-281 Artificial Intelligence**

- Built general search algorithms and agents that fully simulates robots using reflex agents and minimax search.
- Designed planning frameworks for Pacman with algorithms such as GraphPlan and classical learning algorithms.
- Implemented learning algorithms like Q-Learning and value iteration for simulated bots, applying advanced techniques like Asynchronous Value Iteration and Approximate Q-Learning for enhanced decision-making.

ACTIVITIES AND REWARDS

- **GCS**(CMU Game Creation Society) – Game Creator and Soundtrack Composer
- **Team Crescendo LLC** – Game Music Composer
- **Dean's List**: Spring24, Fall24