ANNA LEE

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EDUCATION

Bachelor of Computer Science, Carnegie Mellon University — Expected May 2025
School of Computer Science, Computer Systems Concentration (GPA: 3.76)

- *Coursework*: Computer Systems, Compiler Design, Artificial Intelligence, Algorithm Design, Computer Security, Programming Languages (*Currently taking:* Database Systems, Computer Architecture)

EXPERIENCE

Software Engineering Intern — May 2024 – August 2024
Lab37 — *Warrendale, PA*

- Developed a test harness for ChatGPT integration with company's kitchen automation robot, reduced query response time by >70%, and improved accuracy of responses, allowing AI suggestions to be automatically applied.
- Reworked and improved a simulator in Python for kitchen robot, allowing for changes to execution plans to be simulated and timed over hundreds of orders in seconds.
- Developed an algorithm to optimize execution order and timing, saving up to 30 minutes per day in completion time and improving completion time in >80% of cases.
- Created a heuristic to change parameters of the optimizer based on current state, allowing kitchen robot to dynamically change strategies based on estimated completion time.

Teaching Assistant (15-451, 15-210, 15-112) — Jan 2022 – Dec 2023, Aug 2024 – Present
Carnegie Mellon University — *Pittsburgh, PA*

- Held weekly recitations, teaching algorithm design principles (divide and conquer, contraction, graph algorithms, dynamic programming, minimum spanning trees, network flow) and data structures (tables and augmented tables, priority queues).
- As content creation lead, created daily recitation plans, practice quizzes, and extra practice session plans, targeting learning objectives and challenging critical thinking.
- Mentored students in a medium-size independent project, providing personalized guidance.

PROJECTS

Memory Allocator — June 2022
Project for 15-213 (Introduction to Computer Systems)
Wrote a dynamic memory allocator in C, applying optimizations to improve throughput and memory utilization. Optimizations included segregated lists for block sizes, shrinking the size limit of allocation, and removal of footers for better utilization.

C0 Compiler — August 2023 – December 2023
Project for 15-411 (Compiler Design)
Wrote a compiler in OCaml for C0, a subset of C, including a copying garbage collector and a builtin memory usage tracker. Optimizations included register allocation, function inlining, tail call optimization, and conversion to SSA for constant propagation, constant folding, and common subexpression elimination.

ADDITIONAL

Languages and Tools	Python, SQL, C++, C, OCaml, Standard ML, Rust, Java
Frameworks and Tools	Git, Vue, HTML, CSS
Other	U.S. Citizen; no work authorization required

HONORS

- SCS Dean's List F22, S23, F23, S24