

## Jackson Liao-Cheng

Buffalo, NY / jacksonliao78@gmail.com / 716-322-8984

## EDUCATION

---

### Cornell University (College of Engineering)

Expected Graduation: May 2028

- B.S., Computer Science & Operations Research

**Relevant Coursework:** Honors Object-Oriented Design (CS 2112), Discrete Structures (CS 2800), Functional Programming (CS 3110), Eng Probability and Statistics (ENGRD 2700)

## RELEVANT EXPERIENCE

---

### American Red Cross

June 2024 - August 2024

#### *Software Engineering Intern*

- Built utility script with REST API to archive 25000+ Jira issues, saving extensive manual work
- Developed a Flask-based web application enabling users a way to trigger and monitor archival jobs
- Contributed to tooling supporting migration to Kubernetes on AWS

### Kumon

June 2023 - August 2025

#### *Center Assistant*

- Guided students from K-12 to solve math and english problems
- Provided feedback to parents and staff, strengthening student progress tracking

### Nichols High School

September 2020 - May 2024

#### *Peer Tutoring Co-Head*

- Provided STEM tutoring to students through individualized approaches
- Mentored new tutors and coordinated scheduling for 20+ tutors
- Developed a website to offer online resources, growing the program two fold through accessibility

## PROJECTS

---

### Critter Simulation

September 2025 - December 2025

- Architected and implemented a parser and AST for a custom critter behavior language
- Applied the visitor design pattern to support AST mutations for evolutionary simulation features
- Engineered the core simulation model, including critter logic, rule evaluation, and world updates
- Built a GUI that renders and simulates worlds, using multithreading to maintain responsiveness.

### Tetris Bot

Dec 2024 - March 2025

- Built a fully playable Tetris clone in Python, including numerous piece rotation features
- Developed and trained an autonomous bot that evaluates board states with weighted heuristics
- Achieved improvement through optimized weights using a genetic algorithm and evolved strategies

## TECHNICAL SKILLS

---

**Programming Languages:** Python, Java, C++, JavaScript, SQL

**Technologies:** RESTful API, Flask, React, Git, Docker, JUnit

## AWARDS

---

- AIME Qualifier 2x