

# HENRY LIU

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[Portfolio Website](#) ◊ [Github](#) ◊ [LinkedIn](#)

## EDUCATION

University of Massachusetts Amherst

September 2023 - May 2026

B.S. in Computer Science and Mathematics

GPA: 4.00

Coursework: *Introduction to Computation, Programming Methodology, Algorithms, Object Oriented Programming Concepts, Discrete Mathematics, Linear Algebra, Real Analysis II, Calculus IV, Probability Theory*

## PROJECTS

Event-Driven Backtesting Environment - C++, Python, SQL

November 2023 -

<https://github.com/HenryLiu714/BackTester>

- Developed an **event-driven backtesting software** for testing algorithmic trading strategies using C++
- Compiled securities information using **Python scripting** into a **MySQL database**

Stroke Classification Model - Python, Keras

June 2021 - April 2022

[https://github.com/HenryLiu714/stroke\\_classification\\_network](https://github.com/HenryLiu714/stroke_classification_network)

- Constructed a **machine learning** model to detect and classify medical strokes with **89.6%** accuracy on testing data
- Compiled and analyzed image data from public hospital databases and created a **neural network** using the **Keras and Tensorflow APIs**

Sky Spectre Chess Engine - C/C++, Python, Git

May 2022 - August 2023

<https://github.com/HenryLiu714/Sky-Spectre>

- Constructed a chess engine in C++ and Python and rendered using the Raylib graphics library
- Integrated various algorithms for optimized performance

Graphity (HackUMass 2023 Award Winner) - React.js, TypeScript, Git

November 2023 - November 2023

<https://graphity.tech>, <https://github.com/waiwasabi/hack2023>

- Used **React.js** and **Typescript** to create a full stack web-application for visualizing graph creation and search algorithms in a team for HackUMass 2023
- Developed a built-in code editor and IDE, user interface, and graph representation

EmployBee - Java/Kotlin, SQL, Git

January 2022 - May 2022

<https://github.com/CamWhiting12/EmployBee>

- Developed an android app in **Android Studio** aimed to centralize management for small businesses and improve communication between an employer and employees
- Designed an SQLite database for a protocol search engine and tasks manager
- Worked within a small team throughout the entire development cycle with primary focus on back-end features

## WORK EXPERIENCE

Math Instructor - Mathnasium

June 2022 - July 2023

Taught extracurricular math to students from varying age groups, assisted in training new employees

Retail Associate - Global Partners

June 2023 - August 2023

Handled transactions, assisted customers, and managed deliveries and restockings at a Global Partners owned convenience store

## SKILLS

**Languages:** C/C++, Python, Java, Kotlin, HTML/CSS, TypeScript

**Libraries and Tools:** Tensorflow, Matplotlib, Pandas, Numpy, Git, Unit Testing, Linux Administration

## AWARDS

- **Third Place** at the Massachusetts Society for Medical Research Student Competition June 2022
- **Finalist** in the International Math Modeling Competition (IMMC) March 2022
- **Award Winner** at HackUMass 2023 November 2023