

LONG HUYNH

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EDUCATION

University of Massachusetts Amherst

August 2020 - May 2024 (Expected)

B.S. in Computer Science and Mathematics

GPA: 3.80/4.00

- Competed in the **International Collegiate Programming Contest (ICPC) Northeast North America Regional 2021** on behalf of the UMass Amherst team and placed **6th out of 120 teams** during the 8-hour competitive programming
- Selected for **Chancellor's Award, Commonwealth Honors College**, and **Dean List** for academic excellence performance in all semesters
- **Relevant Coursework:** AP Computer Science A, Problem Solving with Computers, Data Structures and Algorithms, Linear Algebra, Discrete Math, Applied Statistic, Programming Methodology, Computer System Principles, Web Programming with Python and JavaScript, Full-Stack Web Development with React Specialization, Operating System, Artificial Intelligence

SKILLS

- **Programming Languages:** Python, JavaScript, Java, C/C++, Scala
- **Web Development:** REST API, NodeJS, React, Redux, ExpressJS, Django, Bootstrap, HTML/CSS
- **Database System:** MongoDB, Firebase
- **Software Development Life Cycle:** Git Version Control
- **IDE/Text Editor:** Visual Studio Code, Eclipse, JGrasp, PyCharm, Ocelot, Vim, Emacs, Nano

WORK EXPERIENCE

University of Massachusetts Amherst, Amherst, U.S.

September 2022 – Present

Peer Mentor in Computer Science Department

- Meet with a first-year student once a week to discuss about courses, college life, concerns, and career over a meal or coffee
- Instruct the mentee in Computer Science concepts such as class, methods, objects, encapsulation in the Introduction to Programming course
- Maintain records of interactions with the mentee in a spreadsheet or google form and report to lead supervisor

MathWorks Math Modeling Challenge, Boston, U.S.

February 2019 – February 2020

Team Leader

- Led a team of 5 high school seniors to create methodical mathematical models to solve given world problems
- Built a model using mathematics and statistic to predict what percentage of semi-truck will be electric in the next few years
- Enabled the model to determine the needed number of locations of charging stations along major U.S. trucking routes
- Upgraded the model to prioritize which routes to develop first with electric charging infrastructure
- Improved leadership, analytical thinking, and teamwork skills by competing in the challenge

CATS Academy, Boston, U.S.

February 2018 – November 2019

Robotics-Software Development Intern

- Implemented a robot using Arduino, open-source software based on C++, for transporting objects to increase staff efficiency
- Increased the range of control of the robot up to 100 feet by connecting the PlayStation4 controller to its movement system
- Redeveloped and optimized the robot's movement speed from 7 mph to 18 mph to present at Tech Fair 2019 at CATS Academy
- Developed and automated flickering lights by Arduino to serve in the Fashion Show 2018 at CATS Boston
- Utilized a resistor enabling blink rate of LED for the lights to reduce manual work by 40% operation time

PROJECTS

Ristorante Con Fusion

March 2022 – May 2022

- Designed a single-page web application using Flux design pattern, React, Redux, and JavaScript ES6 to demonstrate a client-side for a restaurant
- Created a Server side using JSON-server, Fetch, REST API to integrate CRUD operations on images of dishes, menu, clients, and comments
- Improved UI/UX designs by using Reactstrap and Bootstrap to control input forms and make the side more responsive

The Great Detective

January 2022 – February 2022

- Deployed a text adventure game in C and used Object-Oriented Programming (OOP) to build 9 rooms connected via pointers, 7 characters, and 9 items
- Developed commands for in-game actions to take/drop an item from/to a room, move to an adjacent room, check user's bag, etc.
- Utilized the Fisher-Yates shuffle algorithm to randomize the rooms' locations and items when starting the game

Finite State Machine

November 2021 – November 2021

- Implemented in JavaScript a Finite State Automaton (FSA) for clients to change states deterministically with specific transitions
- Automated the machine to move non-deterministically to a state when certain transitions were not available
- Applied Memento pattern to save a state and returns it at any time during the operation regardless of transitions

Code Interpreter

October 2021 – October 2021

- Built and tested a JavaScript interpreter that takes in fragments of JavaScript and executes proper outputs
- Utilized a parser to turn JavaScript's concrete syntax into an abstract syntax tree to evaluate complex logical and arithmetic expressions
- Finalized to operate with JavaScript conventional syntax, scope, variable declaration, variable assignment, and execution structure rules