Aaron Alvarado Kristanto Julistiono

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Education

Massachusetts Institute of Technology (MIT), Cambridge, MA **May 2025**

- Bachelor of Science in Computer Science and Engineering
- GPA: 5.0/5.0
- Current Courses: Machine Learning, Design and Analysis of Algorithms, Fourier Analysis, Intro to C and Assembly
- Relevant Coursework: Fundamentals of Programming (Object Oriented), Intro to Algorithm, Algebra I and II (Abstract & Linear Algebra), Calculus I and II, Diff. Equation, Mathematical Problem Solving (Putnam Seminar)

Relevant Skills

- **Computer Science:** Algorithms, Data Structure, Object Oriented Programming
- **Programming Language:** Python, C++, C, MySQL, JavaScript, React.js, Basic Node.js and Express.js, MySQL, Haskell, R, Basic MongoDB, MERN Stack, Assembly
- **Mathematics:** Linear Algebra, Basic Statistics and Probability, Problem Solving, Group Theory
- **Other:** Leadership, Collaboration, and Communication

Projects

Lie Wordle Personal Project

Skills: React.js, MongoDB, JavaScript

- Recreated the popular WORDLE app, with a new mode where one letter clue is false or hidden
- Developed using the React.js as the front-end, node.js and express.js as back-end for making and calling API's, and MongoDB as the database that stores most, if not all, five-letter English words

Physics I Final Project

Skills: Leadership, Collaboration, Communication, Problem Solving

- Coordinated a team of three to conduct an experiment that aimed at modelling the motion of a mass on a spring by designating tasks for each people

Experience

MIT Lecture Series Committee (LSC), Cambridge, MA

Webmaster

- Edit and create SHTML files to modify and create LSC web schedule to inform students about future LSC events **Jan 2022 – Present**

New Vassar Dormitory in MIT, Cambridge, MA **Oct 2021 – Sep 2022**

Webmaster

- Created website using React.js templates for the New Vassar dorm at MIT to promote dorm for prospective residents
- Integrated online feedback forms, et al., into the website for student residents to ensure accessibility

MIT Department of Mathematics, Cambridge, MA **Jun 2022 – Sep 2022**

Undergraduate Researcher – *Formal dimension of a p-adic group representation as a p-adic limit*

- Helped define a new formal dimension of the group representation of the p-adic number. Result can be seen here
- Reviewed and quickly learned from books and lecture notes about complex topics such as p-adic numbers, representation theory, et al., to identify relevant ideas and concepts to approach the problem of limit convergence
- Presented research findings during meetings with supervisor

MIT Media Lab, Cambridge, MA **Jan 2022 – May 2022**

Undergraduate Researcher – Graph Neural Network

- Surveyed and summarized over 20 research papers on improving the graph neural network framework to reduce the effects of the long-range dependency problem, such as over-squashing and vanishing gradients
- Collaborated with another undergraduate researcher to present findings and recommendations to supervisor

Awards

- Honourable Mention for Putnam Competition 2021 (Rank 57/2975)
- Gold Medal award for International Mathematical Olympiad 2020 (Rank 22/616)
- Silver Medal award for International Mathematical Olympiad 2019 (Rank 101/621) and 2021 (Rank 105/619)