Christian Johnson

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Education

Harvey Mudd College Claremont, CA

Bachelor of Science, Mathematics and Computer Science *May 2026*

- Dean's List – Fall 2023, Spring 2023
- Most innovative project award at a student organized hackathon
- Relevant Courses: Computability & logic, Computer Systems, Data Structures, Digital Electronics & Computer Engineering, Discrete Mathematics, Differential Equations, Linear Algebra, Network Science, Numerical Analysis, Probability & Statistics, and Real Analysis

Experience

Computer Science and Mathematics Department TA May 2024 – Present

Harvey Mudd College *Claremont, CA*

- Evaluate and provide detailed feedback on problem sets for 100+ engineering students enrolled in MATH56: Probability & Statistics for Engineers
- Grade assignments for over 200 first-year students enrolled in CS5: Introduction to Computer Science course
- Assist students struggling with fundamental programming concepts and techniques using Python and Assembly language in weekly lab hours

Research Group Founder Mar. 2023 – Present

Project GLARE *Claremont, CA*

- Founder of a research group focused on reducing glare using spatial light modulators and liquid crystal displays
- Received a $16,500 grant from the Shanahan Project Fund for the "Project GLARE" initiative
- Constructed a photoresistor circuit to interpret incoming light intensity data
- Currently developing a program with Juypter Notebooks to analyze image files in real-time to adjust light transmission using pandas, Numpy, and openCV

STEM Instructor May 2023 – Aug. 2023

Stemtree Education Center *Irvine, CA*

- Taught students a range of subjects including science, math electrical engineering, robotics, and coding
- Used technology and digital tools to enhance instruction while striving to encourage a growth mindset, curiosity, and instill a passion for lifelong learning
- Integrated real-world applications into the curriculum

Projects

Prison Education Project Aug. 2023 – Present

- Developed engaging lectures to incarcerated individuals helping them explore the captivating world of science, math, engineering, and technology
- Working to foster an inclusive and respectful learning environment, empowering students to think critically, embrace curiosity, and achieve personal growth

Simple Neural Network | *MNIST Dataset, NumPy, Pandas* June 2023 – Aug. 2023

- Implemented a two-layer neural network from scratch using only NumPy and Pandas python libraries
- Preprocessed the MNIST handwritten digit dataset consisting of 60,000 training images and 10,000 test images
- Utilized matrix multiplication and the ReLu activation function for forward propagation

Technical Skills

Languages: Java, Python, C/C++, Makefile, R, Assembly (x86 architecture), LaTeX
Developer Tools: Git, GDB Debugger, Docker, Visual Studio Code, R Studio, Terminal, Juypter Notebook, Eclipse
Libraries: pandas, NumPy, Matplotlib, OpenCV, ggplot2