DAVEN CHANG

University of Maryland College Park
B.S. in CS/ML
GPA: 3.95

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SUMMARY

Passionate about software development and machine learning with a growing interest in Generative AI. Expansive Python skills and experience developed through countless personal projects. Also comfortable with a variety of other programming languages. Collaborative team player with a strong work ethic and a passion for learning and growth.

SKILLS

Languages: Python, Java, C, C++, Mojo, HTML, CSS, Javascript, Arduino.

Technologies: VSCode, Git, Linux, Numpy, Pandas, Tensorflow, Keras, OpenCV, PyTorch, Matplotlib, Mediapipe, Flask, Typing, RegEx.

EDUCATION

8/2023 - Present **CS/ML @ University of Maryland College Park** — **School**
Researcher in the the FIRE research program in Sustainability Analytics. Member of the BigThink AI club, and the Taiwanese American Student Association (TASA).

7/2023 - 8/2023 **Inspirit AI - AI Scholar** — **Program**
Built cifar-10 classifiers with KNNs and CNNs. Combined NLP and DNN through LSTMs, RNN, and transformers, to predict stock prices from news and market history.

6/2023 - 6/2023 **BWSI - COGWORKS** — **Program**
Completed pre-requisite course on Autonomous Cognitive Assistants. Learned version control with Git, and advanced knowledge of Python and NLP techniques.

PROJECTS

Hackathon **Helping Hands** — **https://devpost.com/software/helpinghands-myl8ox**
Developed a program that utilizes computer vision and the onboard webcam to allow users to move, click, and scroll the mouse remotely using their hands. Used Python, mediapipe, cv2, numpy, pyautogui.

Website **davenc.dev/website** — **https://davenc.dev/websiteremake**
Started work on a personal website as a way of learning HTML, CSS, and JavaScript. Learned networking principles such as DNS, IP addresses, and http/tcp as well. Planning to incorporate Node.js and other frameworks

Personal **DigitGAN** — **https://github.com/daven-c/DigitGAN**
Created, trained, and fine-tuned GANs in pytorch capable of generating images of numbers similar to the MNIST dataset. Tested both Deep Neural Networks and Convolutional Neural Networks to improve performance.

Personal **Digit Classifier** — **https://davenc.dev**
Created and trained a Convolutional Neural Network with keras to identify a digit drawn on a grid-based UI created using pygame. Included a system of easily saving and loading the best models.

Personal **A Star Visualizer** — **https://github.com/daven-c/A-Star-Visualizer**
Created a grid-based visualizer which includes the ability to place obstacles on a board consisting of a start and end tile. Once run, the program searches for the best path around the obstacles from the start tile to end tile using the A Star pathing algorithm.

EXPERIENCE

2/2023 - Present **Freelance**
- Developed first paid website, jewel-inthelotus.com.
- Developed automated discord bots that managed servers, initiated events, created games, and boosted member interaction.
- Built mock games including 2048 and Snake using the pygame library.

8/2021 - 6/2023 **Tutor** — **Fairfax Regional Library**
- Tutored students ranging from K-10 in core subjects including math, science, history, and english.
- Tutored every Wednesday and Sunday.

COURSEWORK

- Intro to Object Oriented Programming I/II, Data Structures and Algorithms, Intro to Computer Systems, Discrete Structures, Organization of Programming Languages, Algorithms, Calculus I/II, Linear Algebra.