

# Dylan Cao

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## EDUCATION

### UNIVERSITY OF HOUSTON

#### BS IN COMPUTER SCIENCE

College of Technology

Start Date: Aug 2019

Graduation Date: Dec 2023

## SKILLS

### PROGRAMMING

#### Proficient:

Java • TypeScript

#### Competent:

Python3 • JavaScript

C# • HTML5 • CSS3

#### Familiar:

C++ • Rust • MySQL

### TECHNOLOGIES

#### Web Development Tools:

React • Bootstrap

Node.js • Next.js

#### Back-End Development Tools:

MongoDB Atlas • Prisma

Azure Cosmos DB • Redis

#### Cloud Compute Services:

Vercel • ngrok • S3 • Route53

Google Colab • Jupyter Notebook

#### Data Science Tools:

Matplotlib • Pandas • Seaborn

#### Software Development Tools:

Git Bash • Visual Studio Code

Source Tree • GitHub Desktop

### COURSEWORK

#### Core Fundamentals:

Computer Architectures

Programming and Data Structures

Automata and Computability

Algorithms and Data Structures

Database Management Systems

#### Electives:

Computer Vision and Medical Imaging

Introduction to Data Science

Data Science and Statistical Learning

Introduction to Game Development

## TECHNICAL PROJECTS

### COUGAR SUPPLY DEN | FULL STACK POINT-OF-SALE WEBSITE

- Developed a web application hosted on Vercel, with a MSSQL database on Microsoft Azure, to manage Customer and Admin interactions for a point-of-sale system web application.
- Implemented features for customers to add products to cart, purchase products, and view order histories; for admins to add, edit, and delete items in the cart through API calls and MSSQL queries.
- Utilized libraries and frameworks such as Node.js, Next.js, Tailwind CSS, Recharts, SWR, Axios, Next.js, Flowbite, and UUIDv4.
- Organized the src folder with components, context, interfaces, pages, and styles, handling UI, authentication, table properties, API calls, hooks, and visual input warnings.
- Enabled user authentication with unique account permissions and characteristics.

### FUEL PRICE INSIGHTS | FULL STACK FUEL CALCULATOR WEBSITE

- Implemented user authentication using OAuth.
- Utilized Prisma, MongoDB Atlas, and SWR to fetch data from user inputs into the database.
- Features calculated fuel history specific to certain users.
- Developed using Next.js, Node.js, and various react libraries all within the VSCode Environment.
- Organised proper development practices regarding version control where merges and pull requests were handled among 3 teammates.

### MACHINE LEARNED ARTIST | AI-TRAINED ART GENERATOR

- A publicly hosted web application using Ngrok which allows visitors to transfer art styles from input photos using machine learning methods.
- Utilizes VGG-19 machine-learning model to orchestrate at least 512 input files into an output that produces the neural-style transfer art.
- Implementation for trained model to compare a maximum of 1024 output images.
- Developed on cloud development environment services, Google Colab and Jupyter Notebooks.

### HEMO: FIRST BLOOD | TOP-DOWN SHOOTER UNITY GAME

- Worked with a team of 6 members to create a 2D Unity Game that incorporates dynamic staging through player advancements.
- Developed a scaled difficulty system that spawns more enemies based on 24 primary progressive parameters.
- Implemented a user-interface of 200+ UI elements using Aesprite and Adobe Lightroom, simplifying the overall user experience.
- Developed an 8-directional sprite format for 30 characters, creating a more intuitive mechanic for optimized gameplay.