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:
Introduction to Programming
Programming and Data Structures
Automata and Computability
Algorithms and Data Structures

Electives:
Database Management Systems
Computer Vision and Medical Imaging
Introduction to Data Science
Data Science and Statistics
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.