Hieu Nguyen

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EXPERIENCE

TRITON ENGINEERING STUDENT COUNCIL | Tech Committee

Sep 2024 – Present| React.Js, Vite, Bootstrap, Git

- Designed and implemented dynamic, interactive user interfaces with React.JS, utilizing hooks, functional components, and state management for seamless user experiences.
- Leveraged Vite to enhance the development environment, achieving faster build times, hot module reloading (HMR), and streamlined production bundling.
- Managed project versions using Git, ensuring smooth cross-team collaboration and maintaining an organized development workflow.

PROJECTS

CURRENCY MANAGEMENT APP | Full-Stack developer

June 2021-June 2022 |HTML,CSS, Javascript, TypeScript, REACT.JS, Firebase

- Singly designed, wrote and implemented a React app with full CRUD functionality and authentication
- leveraged a firebase NoSQL backend to ensure smooth and streamlined communication between the backend and frontend

2-D TERRAIN GENERATOR AND PATH-FINDING SIMULATOR | Part of a research project in improving pathfinding with Genetic algorithms

June 2021 -May 2023 | Python

- Designed and implemented a procedural 2-D terrain generator that creates dynamic, randomized landscapes
- Integrated popular pathfinding algorithms, including A* and Dijkstra, to simulate the movement of agents across terrain while avoiding obstacles and selecting optimal paths.
- Applied reinforced learning algorithms such as genetic algorithms to further optimize agent performance

MODEL SYNTHESIS AND WAVE FUNCTION COLLAPSE VISUALISER FOR 2-D TERRAIN GENERATION

https://jaerinx.github.io/2dterrain/

Jan 2024 | React.JS, NEXT.JS, TailwindCSS |

- Engineered an interactive visualizer tool for simulating the operation of 2-D terrain generation algorithms Wave Function Collapse (WFC) and Model Synthesis.
- Designed an intuitive interface to visualize the process of terrain generation, enabling real-time updates and seamless interaction with the model's state.
- leveraged Next.js components and Tailwind CSS for efficient, responsive design.

WEEK TASK TRACKER | Personal Project

March 2024 | React.JS, NEXT.JS, TailwindCSS, Firestore database

- Personal project to track completion and priority of tasks I need to do throughout a week. Tasks are automatically deleted if they are completed and the day has passed
- Link:// **week-tracker-ad123.web.app/**

EDUCATION

UNIVERSITY OF CALIFORNIA SAN DIEGO

Bachelor of Science in Mathematics-Computer Science with minor in Data science
Expected June 2027
Provost Honors Cum. GPA: 3.889 / 4.0

SKILLS

PROGRAMMING

3+ years:
Python • HTML• CSS• JavaScript
1+ years:
SQL • REACT.JS• Typescript•Java
0+ years:
Matlab

COURSEWORK

UNDERGRADUATE

Calculus I-III
Applied Linear Algebra
Symbolic Logic
Introduction to Probability
Accel. Intro. to Programming
Mathematical Reasoning
Principles of Data Science

SOCIETIES

Triton Engineering Student Council
Data Science Student Society

LINKS

LinkedIn:// **/Hieu Nguyen**