Vo Thuan Nguyen

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EDUCATION

University of Massachusetts Amherst August 2020 - May 2024 (Expected)
BSc in Computer Science and Mathematics GPA: 3.92

- Selected for Chancellor's Award and Dean List for academic excellence performance in all semesters
- **Relevant Coursework:** Programming with Data Structures, Introduction to Computation, Reasoning under Uncertainty, Programming Methodology, Front-End Web Development with ReactJS, UI Frameworks and Tools: Bootstrap 4, ThreeJS Journey, Data Analysis with Python and SQL.

SKILLS

- Languages: C#, JavaScript, HTML and CSS, Python, Java, GraphQL
- Libraries: ReactJS, ThreeJS, Bootstrap, NextJS, Numpy, Pandas, Matplotlib
- Version control: Git

WORK EXPERIENCE

CoderPush, Ho Chi Minh City, Vietnam September 2021 - Present
Front-End Web Development Intern

- Developed the client side of an online language study platform Flexi with Ant Design UI and React TypeScript. Communicated with the server side with Apollo GraphQL.
- Maintained the UI with SCSS and styled-component that can be used for different components without being broken.
- Studied NextJS and migrated the website from plain React to NextJS that made it loaded five times faster.

UCPro LLP, Karnataka (remote), India July 2021 - September 2021
Front-End Web Development Intern

- Teamed up with 11 Front-End interns to develop a maintainable and stable E-commerce website UBrikk, integrated with ReactJS, Redux, and React Argon UI.
- Designed and programmed reusable React components using multiple React APIs, including but not limited to react-table, react-router, react-feather. Created modular, responsive templates using SCSS, React UI libraries, and Bootstrap 4.
- Detected and fixed bugs for underperforming components caused by misuses of React lifecycle, hooks entering infinite loops, DOM being used inside React, UIs overlapping content.

Theoretical Computer Science Group – UMass Amherst, Amherst, Massachusetts, U.S. September 2020 - April 2021
Undergraduate Research Assistant

- Conducted research on planar graph and its application in designing algorithm and data structure and formulated the result into a research paper with professor Hung Le.
- Programmed a Python library for planar graph that was able to embed a planar graph with O(n) time complexity with Boyer's algorithm.
- Engaged in a direct study about k-spanners algorithms, its applications in designing all pair shortest path with k absolute tolerance.

Coding Mentor, Ho Chi Minh City (remote), Vietnam April 2021 – June 2021
Python Teaching Assistant

- Assisted the instructor to teach and compose coding assignments for 30 students who switched major to Computer Science.
- Helped students with debugging code and explaining Object Oriented Programming concepts in Python. All 30 students finished the final coding example with a passing score (80/100) and were able to enroll in the Data Structure and Algorithm class.

PROJECTS

C# Data structures and Algorithms Library September 2020 - Present

- A collection of 7000 lines of competitive programming problems written in C#. The contents are ranged from many categories: Dynamic Programming, Greedy Algorithm, Backtracking, Hashing, Graph, Tree, and Heap.
- Data structures are programmed to be multi-purpose and can be used as a Library.

Expectimax 2048 September 2021 – October 2021

- Rebuilt the 2048 game with React and custom hooks. Create responsive and animated UI with SCSS and open-source gif
- Programmed an AI to play against human using Expectimax algorithms with $O(b^m)$ time complexity that can win the game with 100% accuracy.

Backtracking Sudoku July 2021

- Built a responsive Sudoku game with Vanilla JavaScript and Webpack.
- Every game is generated at random and solved successfully using randomization and backtracking algorithm in $O(9^m)$

React Tetris June 2021

- Utilized ReactJS library to build Tetris game. Managed state handled collision and edge cases with React Hook and Context API.
- Integrated responsive and declarative UI design with Reactstrap and styled-component.