Tony Vuong

tonyvuong245@gmail.com ● (714) 487-8100 ● [LinkedIn] ● [GitHub]

EDUCATION

University of California, San Diego   Expected June 2025
B.S. in Mathematics-Computer Science, GPA: 3.57, Provost Honors (since Fall 2023)   *La Jolla, CA*

- Relevant Coursework: Software Tools, Data Structures, Analysis of Algorithms, Mathematical Reasoning, Discrete Mathematics, Optimizations in Data Science, Statistical Methods, Data Science in Practice*, Cryptography*, Web Mining & Recommender Systems*

* In Progress

Irvine Valley College   June 2023
A.S. in Computer Science, Mathematics, & Physics, GPA: 3.87, Dean's List (Fall 2021-Spring 2023)   *Irvine, CA*

PROJECTS

E-Commerce   **Sept 2024**
Personal Project / Full-Stack Development / MongoDB, Express, ReactJS, Node.js

- Built an e-commerce platform with user sign-up, authentication, & product browsing by tags
- Developed REST API for managing user sign-up & authentication, product listings, & shopping cart functionality
- Created admin tools for adding & editing products for inventory management

Quizzical   **July 2024**
Personal Project / Front-End Development / HTML, CSS, JavaScript, ReactJS

- Developed a trivia application fetching random questions from the Trivia Database API
- Enabled user customization for the number of questions displayed
- Implemented dynamic screen rendering using ternary operators based on user interaction
- Managed state to display correct and incorrect answers upon trivia completion

File Compressor & Decompressor   **March 2024**
School Project / C++

- Designed and implemented a file compression and decompression tool using Huffman Compression
- Constructed a Huffman Tree with priority queues based on symbol frequency
- Parsed the Huffman Tree to encode each byte efficiently
- Converted ASCII counts to binary to achieve further file size reduction
- Employed recursive techniques to decode and restore the original symbols

PPM Reader & PGM Writer   **November 2022**
School Project / C++

- Built a program to read 10 PPM files & output a PGM file based on user-selected number and color preferences
- Displayed chosen numbers using spaces and asterisks for visual representation
- Ensured efficient memory management by preventing leaks through proper deallocation

SKILLS & INTERESTS

- **Programming Languages:** C++, Java, Python, HTML, CSS, JavaScript, R, MATLAB, SQL, TypeScript
- **Frameworks:** ReactJS, Tailwind, Next.js, Express, Node.js
- **Libraries:** NumPy, pandas, matplotlib, jQuery
- **Tools:** VIM, Git, Jupyter Notebook, VS Code, Visual Studio, Eclipse, Firebase, MongoDB
- **Interests:** Full-Stack, Front-End, Back-End, Data Science, Data Engineering, Data Analysis