# **Nathan Tran**

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#### Education

### University of California, Irvine

Expected June 2024, GPA 3.7/4.0

Bachelors in Psychological Sciences, Minor in Information and Computer Sciences

### Relevant Coursework

Data Structures and Algorithms, Programming in C++ Requirements Analysis and Engineering, Project in Ubiquitous Computing

## **Projects**

### Sorted Linked Lists | C++

- Incorporating key-value pairs to simulate a map interface using a double linked list.
- Implemented overloaded operators to enable interaction with the list data structure.
- Conducted thorough testing and debugging to ensure correct functionality.

## Hangman Game | C++

- Implemented a cheating mechanism where the program strategically narrows down the possible words based on user guesses, maximizing the remaining word possibilities to increase difficulty for the user.
- Utilized classes and data structures such as arrays and lists to manage word lists efficiently, ensuring minimal memory usage.

#### Lewis Carroll Word Ladder | C++

- Employed natural comparison operators to maintain the min-heap property and handle duplicate keys correctly.
- Utilized the priority queue data structure to revisit the word ladder puzzle, implementing an alternative search algorithm based on Lewis Carroll distance and heuristic estimates.

### **Technical Skills**

Languages: Python, C++, HTML/CSS

Tools/Databases: Git, VS Code