

William Alex Greenwald

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Education

University of California - Santa Barbara

Sept 2021-Jun 2025

Bachelor of Science, Computer Science (Candidate)

- Courses: Problem Solving With Computers I & II (C++), Object Oriented Design (C++)

Skills

Course taught Skills:

- General: **C++**, Makefile, Unix command line, Git+Github, Java, LaTeX
- Specific: Hashing, BSTs, Linked Lists, Processes/Threads, **Pointers**

Self taught skills: Python, HTML, CSS

Miscellaneous skills: Bilingual (english, spanish), Guitar, and Piano

Projects and Work Experience

Binary Search Tree with Value Conversion

Implemented a binary search tree class by scratch in C++, which stores int values. Input for the program is 2 .txt files holding multiple playing card suits and values (strings). My program parses through the .txt files, converts the string values into int values, and inserts into their respective BSTs. Both BSTs are then compared, and matching cards are removed from the BST. Removed cards and remaining cards are translated back from int to string and printed, with a description of if they were removed or not.

Sorting Algorithm Visualizer

Python program written to visualize main 3 quadratic time sorting algorithms. Used pygame to visualize these algorithms. Improved my general python syntax skills, as well as worked with dictionaries, tuples, and arrays. Implemented python generators along with pygame to update visuals when needed, specifically when running the sorting algorithms.

Personal Website

Purely written in HTML and CSS, which are self taught skills. I implemented hover animations, interactive buttons, and image positioning. Improved my understanding of git and github, since I added this project to my git, as well as linked some of my github projects on this site. Link: william-greenwald.com

Seaworld San Diego Ride Operator

Jun 2022 - Sept 2022

Seasonal ride operator at "Shipwreck Rapids" ride. Loaded, unloaded, grouped, and monitored guests at this attraction. Skills used were teamwork, communication, and efficiency. Maintained guest and employee safety at all times.