

Riley Wenckens

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OBJECTIVE

Adaptable and detail-oriented Computer Science student with foundational knowledge in software development and mathematics. Seeking to leverage academic and hands-on programming skills in languages such as C++ and Python to contribute to software solutions as a Summer 2024 intern.

EDUCATION

Texas A&M University

College Station, Texas

Bachelor of Science in Computer Science (GPA 3.94)

Minor in Mathematics

Expected Graduation: May 2025

- **Related Coursework:** Discrete Structures, C++ Program Design, Calculus I-III, Differential Equations, Programming Languages, Data Structures and Algorithms, Linear Algebra, Computer Organization

PROJECTS

Advanced Data Structures and Algorithms Implementation

August 2023

C++

- Engineered and replicated C++ standard library data structures including unordered_map (hashmap with chaining), vector, and linked list, incorporating the Rule of Five and custom iterators.
- Developed a binary search tree, integrating recursive DFS and BFS algorithms for optimized key operations such as insert, erase, min, max, contains, and find.
- Constructed a priority queue with comprehensive functions including upheap, downheap, push, pop.
- Innovated in global and local iterator design for unordered_map, facilitating efficient traversal across linked lists, and conducted comparisons between polynomial rolling hash and fnv1a hash functions.

Dungeon-based Game

April 2023

C++

- Conceptualized and programmed a dungeon-navigation game, applying principles of object-oriented programming for engaging player experiences with monster combat and treasure hunts.
- Implemented dynamic memory allocation to create and modify an evolving game map.
- Leveraged file I/O operations for dynamic 2D array allocation, extracting dungeon levels from files.
- Integrated game mechanics like monster interactions, player movements, and special tiles.

Optimized Fibonacci - Multiple Precision Addition

November 2023

Assembly (x86-64), C

- Utilized multi-precision addition in C for handling large-scale computations, significantly surpassing the limitations of standard 32-bit integers by over 10x.
- Optimized fibonacci number calculation using Assembly, enabling rapid computation of large numbers, far exceeding standard recursive algorithm capabilities.
- Demonstrated computational efficiency, achieving over 1000% performance improvement compared to traditional methods in large number calculations.

LEADERSHIP AND ACTIVITIES

Professional Outreach Portfolio

2023-Onward

- Initiated an outreach program to interview experienced engineers across multiple specialties, gaining industry insight and professional connections.

Bodybuilding Club Member

2021-Onward

- Currently participate in group fitness sessions, emphasizing teamwork through structured workouts.

Texas A&M Computing Society

2023-Onward

- Learning from workshops and industry professionals. Past speakers from Microsoft, Capital One etc.

SKILLS

Programming: C++, Python, Java, Scheme, C, x86-64 Assembly

Tools & OS: Github, Linux, Visual Studio, Excel