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JIM PALOMO

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Education

Chicago, IL **University of Illinois at Chicago** **May 2022**

- Bachelor of Science in Computer Engineering. GPA: 3.76
- Undergraduate Coursework: Data Structures; Introduction to Embedded Systems; Introduction to Logic Design, Mathematical Foundations of Computing, Introduction to Differential Equations, Calculus III, Applied Linear Algebra.

Experience

Research Intern, Co-Op Aide **University of Illinois at Chicago** **Jun - Aug 2019**

gem5 Simulator System

- Developed on an open-source simulation platform for computer system architecture called gem5.
- Established connections between different CPU chip-sets such as ARM & x86 with memory controllers, caches, and interconnects.
- Communicated with an engineering professor and a Ph.D. student on project deadlines.

Projects

Back-End Navigation, UIC **Apr - May 2020**

- Designed an application that allows the user to observe the back-end functions of loading a map, building a graph, and finding the shortest path between two separate locations.
- Integrated Dijstrakia's algorithm to find the shortest path among two points.
- Implemented open-source maps from openstreetmap.org of UIC's East Campus.
- Utilized: Linux, C++, XML, GNU Make, debugged using CLion & VSCode, Valgrind (memory leaks), (data structures) Map, Graph, Stack, Vector, Set. Queue.

DIVVY Data Hashing, UIC **Apr 2020**

- Developed an application that hashes station and trip data from DIVVY bike-sharing company.
- Created a hashmap with separate hash functions for over 1500 trips and 580 bike IDs data.
- Added multiple commands: search by station id, abbreviation, trip id, bike id, nearby stations, and similar trips.
- Utilized: Linux, C++, GNU Make, Comma-Separated Values, debugged using CLion & VSCode, Valgrind (memory leaks), (data structures) Vector, Hashmap.

Threaded AVL Tree, UIC **Mar 2020**

- Created a general-purpose threaded AVL tree class that dynamically grows that contains insert, copy/construct, print tree, height, rotations, and search keys among a specified range.
- Designed with the notation of each node contains a key, value, left/right pointers, boolean for threading, and height.
- Utilized: Linux, C++, GNU Make, Catch Framework (unit tests), debugged using CLion & VSCode, Valgrind (memory leaks), (data Structures) AVL tree, vector, stack.

Amazon Autonomous Bot, Self **Jul 2019**

- Programmed a web scraping bot that gathers product information on Amazon: price, URL, name.
- Updated spreadsheet with data from initial scrape which sends an email notification to the user.
- Utilized: Python, Google APIs, Google Sheets.

Raspberry Pi Smart Monitor, Self **May 2019**

- Developed through Raspbian OS using open-source code via GitHub (MichMich).
- Implemented personal calendar, cryptocurrency stock tracker, weather API, date & time, etc.
- Utilized: Linux, JSON, Python.

Skills

Software/Tools: C, C++, Python, Linux, Git, Shell Scripting, SSH, Catch Framework, Valgrind, ARM