ALBERTO **RAMIREZ**

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# EDUCATION

**University of Illinois at Chicago May 2023**

**Bachelor of Science in Computer Science**

Software Engineering Concentration

**Relevant Coursework**: Program Design I, Program Design II, Mathematical Foundations of Computing, Programming Practicum, Data Structures, Machine Organization, Languages and Automata, Computer Design, Software Design, Database Systems

# SKILLS

**Coding:** C**++,** Java (1 yr.), Python (1 yr.), SQL, C#, JavaScript

**Coursera by Google:** The Bits and Bytes of Computer Networking, Technical Support Fundamentals

**Software:** Arduino IDE, Processing, Android Studio, Unity

**Languages:** Spanish (Seal of Biliteracy), Mandarin (Novice)

# WORK STUDY

**UIC School of Theatre and Music, Technical Assistant** **October 2019 – Present** • Assist with set up of sound system and record video and/or audio for concerts and rehearsals.

* Help students and teachers by answering questions, providing equipment, set up tech, or troubleshoot technical issues.
* Collaborate with co-workers and supervisor remotely to help staff and students.

# PROJECTS

**Interactive Database GUI (Group Project) Summer 2022**

* Created a database schema including 5 tables in MySQL Workbench to use along with a Java built GUI
* Assisted partner with designing GUI’s elements and relationship to the database schema’s tuples using Java swing
* Wrote SQL queries to insert, delete, and update items in the database to interact with in the GUI
* Designed the schema diagram and tables to demonstrate the relationship between our tuples and what elements belong respectively

**Home Monitoring System (Arduino Group Project) August - December 2021**

* Worked in a group of 4 using 4 Arduino boards with 6 input devices and 4 means out output.
* Suggested ideas to allow our devices to perform smart home features without making expensive home changes.
* Used open-source code for our I/Os and edited code to add features required for each of our device’s purpose.

**File Compression Program November 2021**

* Used Huffman encoding algorithm to encode and decode .txt files to allow file compression and decompression.
* Edited HashMap started code to able to implement a frequency map that used chaining to handle collisions.
* Made a function to encode the frequency map using a Huffman node struct and a priority queue to organize values.
* Built an encoding map by recursively searching through a Huffman tree to give binary values to .txt file’s characters.

# LEADERSHIP

**Outreach (SHPE),** Chicago, IL **August 2020 – June 2021**

Co-Chair

* Created online content with co-chairs targeted to help students in STEM field.
* Lead creation of website with team to have a platform to share STEM/Academics content
* Organized SHPE UIC’s first virtual 5k with co-chairs and raised ≈ $300 to donate to schools in need of supplies.

**Noche de Ciencias (SHPE),** Chicago, IL **November 2019**

* Helped set up stations of LED/Servo Activities
* Taught young attendees how to control laser attached to servo motors through Arduino IDE.
* Explained how Arduino transfers power and outputs information to motors using pins and breadboard.