# Xavier Caracter

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## Summary

An Agile/Scrum oriented college student looking to gain experience in the field of software development.  I want to solve complex problems by analyzing diverse data sets and business rules by applying my academic experience to present solutions that help achieve customer and business goals.

## Skills

- Java
- Python
- C
- SQL
- UNIX/Linux
- HTML 5 & CSS
- Shell Scripts
- MS Power BI
- MS Access Development
- Agile/Scrum Operations

## Education

### BOISE STATE UNIVERSITY

- Major: Computer Science
  - Emphasizing in Machine Learning
- Minor: Applied Mathematics
  - College of Engineering Dean's List
  - Current BSU GPA: 3.5
  - Anticipated Graduation: Spring 2024

### ARCHBISHOP RIORDAN HIGH SCHOOL

- General Education
- National Honor Society

## Leadership and Extra Curricular Activities

- Boise State Blue Thunder Marching Band (Drumline)
- Archbishop Riordan High School Football (Varsity Quarterback)
- Archbishop Riordan High School Marching Band (Drumline Captain)
- Archbishop Riordan High School Basketball, Track and Field

*(Please see attached appendix for development experience)*

# Appendix

**Development Experience**

- Java (Top 3 of 19)

| Program Name | Program Description |
|---|---|
| Hashing Test | I created a Hash Table data structure and developed automated testing that confirmed data insertion and compared searching speeds using various data types. |
| Circuit Tracer | The program uses a brute force algorithm to find the most efficient paths on a "Circuit Board". |
| Minecraft Modification and Multiplayer Server Admin | Using Java, I modified Minecraft ("sandbox" user game) by creating and editing new and existing objects. I was the server administrator and was responsible for configuring server functionality. |

- Python (Top 3 of 11)

| Program Name | Program Description |
|---|---|
| Recommender | The program gives book recommendations from a set of data provided by users and calculates the average ratings of the books. |
| Gerrymandering | The program detects probable gerrymandering within a state using data provided by a user via a formatted text file. |
| DNA | The program reads data (genetic sequences) from a formatted text file and determines if the genetic sequences are proteins. |

- C (Top 3 of 21)

| Program Name | Program Description |
|---|---|
| Online Shopping Cart | A user selects their desired items and the program creates an invoice based on the same items. |
| Gradebook | This program creates a sorted grade book using student and grade data provided by a formatted text file. |
| Playlist | The program creates a playlist that can add, change the position of, and delete songs from said playlist. |

- SQL (Top 3 of 3)

| Program Name | Program Description |
|---|---|
| School Management System/Class Registry | Using MySQL, I designed a mock school management system, where CRUD operations for students, teachers, and faculty are supported. |
| Gene Bank Search Database | Using SQLite, I added the results of a gene bank search to a database and generated query results for spreadsheet manipulation. |
| Who Am I? | Using SQL for querying and MS Power BI for data visualization, this program creates genealogy reports for analysis purposes. |

**Appendix cont.**

**Personal Projects**

- Java
    - Directory Copier
        - This program takes two directories (a source and destination) and copies the contents of the source directory into the destination directory.
        **Value Statement:** I wanted to find a solution to copying entire directories without having to constantly drag and drop files everywhere. With my program, I was able to do some much-needed hard drive cleanup in a more efficient manner, as well as having total control of where I am sending my files.

    - Matrix File Format Checker
        - This program checks the format between two files that contain matrix data, only accepting the files that fit a specific format.
        **Value Statement:** The purpose of this project was to have a program that will check the various matrix input files versus having to reiterate the solution across multiple assignments.
- Python
    - Composer.py
        - This program takes the information given from two input files and produces a chord progression as well as a small solo piece from user input.
        **Value Statement:** I wrote this program as a small demonstration for my university jazz history class. Since my professor was intrigued by computer science and programming, I put together this musical program and we played the output chords and solo piece.