

Brian Salchert

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<https://portfolio-website-zl73.onrender.com/> |

PROFESSIONAL PROFILE

Driven and detailed computer science student with a solid background in coding, software engineering, data analysis and machine learning technologies. Proficient at manipulating datasets with 100,000s of entries and designing efficient algorithms to solve unique problems. Adept in troubleshooting issues with software and hardware. Consistently exceed quality expectations and meet deadlines on time. Relevant courses include:

- Data Structures & Algorithms
- Discrete Math I & II
- Software Engineering
- Operating Systems & Architecture
- Principles of Cyber Security
- Artificial Intelligence
- Database Management
- Information Systems Analysis & Design
- Graphics & Visualization
- Platform Based Development

EDUCATION / CERTIFICATIONS

Bachelor of Science, Computer Science, Colorado State University Global (June 2025), GPA: 4.0

SQL Associate Certification – DataCamp

Associate Data Scientist in Python Certification – DataCamp

RELEVANT PROJECTS

TEXT CLASSIFIER FOR AI-GENERATED TEXT

September – November 2024

- Built a LSTM RNN in Python for the binary classification problem of detecting AI-written text.
- Explored, cleaned, and preprocessed datasets with 100,000s of entries using Pandas and NLP, producing tokens that provide the most information to the classifier.
- Plotted metrics (i.e. accuracy, AUC ROC, precision/recall) with matplotlib/seaborn, allowing for precise tuning of the model with regularization techniques to achieve an AUC ROC score over 95%.
- Used PyTorch debugger for testing/troubleshooting algorithms, saving time in removing bugs.

SUDOKU DESKTOP APPLICATION

April – May 2024

- Developed a Java desktop Sudoku game with randomized board generation for increased replay value.
- Incorporated backtracking algorithm (DFS) for board generation and recursive clue removal using Sudoku strategies (hidden singles, crosshatch scanning) to prepare games in <50 ms on average.
- Utilized JavaFX for user interface design, enforcing the Model-View-Controller design pattern to partition the interface from the game data for enhanced code clarity.
- Used IntelliJ debugger for troubleshooting, allowing for real-time tracking of many instance variables.

MOCK CLOTHING STORE – DATA STRUCTURES & ALGORITHMS

March – April 2023

- Led team of 2 in developing a Java terminal-based clothing store holding 10,000s of items and capable of searching, inserting, and deleting products in <1 ms.
- Utilized HashMaps, trees, linked lists, and bucket sort for efficient runtime complexities below $O(n^2)$.
- Implemented query correction and word suggestion using Levenshtein distance to improve user experience by reducing the impact of typos.
- Performed unit tests to verify functionalities for all possible user inputs, leading to an effective demonstration of the software during a formal presentation.

TECHNICAL SKILLS

Languages & Libraries

- Java (3 years), Python (2 years), C++ (1 year)
- HTML, CSS, JavaScript (1 year)
- Pandas, Numpy, Matplotlib, PyTorch (1 year)
- PostgreSQL, MySQL (1 year)
- React, JavaFX, WebGL (<1 year)

Apps & Other Tools

- Git / GitHub
- IntelliJ IDEA, PyCharm
- Visual Studio Code
- Unified Modeling Language
- Windows 10 & 11

CAREER SUMMARY

DA CAPO OF AVON

April – September 2024

Host

- Planned and organized seating for reservations and walk-in guests.
- Worked with managers & wait staff to manage larger parties & busy nights.
- Took and fulfilled takeout orders using restaurant POS system.
- Maintained a welcoming and organized restaurant environment.

AVON PUBLIC SCHOOLS

Seasonal 2022 – 2024

Pit Orchestra Musician

- Performed as an alumnus bassist for the Avon High School Spring Musical.
- Prepared and rehearsed music weekly.
- Worked with director to identify areas for improvement and solutions in rehearsals.