

GABRIEL SMITH

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SUMMARY

I am a computer science student at the University of Toronto with a strong foundation in programming, specifically data structures, algorithms, and artificial intelligence. I am passionate about technology and innovation, eager to learn new skills, and ready to apply them to real-world challenges. Currently, as a Customer Service Representative at Farm Boy, I excel in providing customer service, preparing ready-to-eat meals, and maintaining a clean and safe work environment.

EXPERIENCE

Student

September 2022 - Present

- **University of Toronto** | Mississauga, Ontario
 - Designed algorithms incorporating many data structures like graphs, flows, trees, etc.
 - Created AI using search algorithms like minimax, backtracking, A*, AC-3.
 - Designed Java projects with a focus on user accessibility using Google Cloud APIs to include voice recognition, TTS, and translation.
 - Analyzed complex datasets using R to extrapolate and interpolate data.
 - Developed comprehensive unit tests and PyTests, covering all edge-cases ensuring precision.
 - Conducted code reviews to optimize algorithm performance, ensuring adherence to coding standards.

Customer Service Representative

07/2024 - Present

- **Farm Boy Inc.** | Ontario, Canada
 - Provide exceptional customer service, addressing customer inquiries and resolving issues promptly and courteously.
 - Maintain a clean and organized work area, following health and safety regulations.
 - Assist with inventory management, including stocking supplies and monitoring product freshness.
 - Collaborate with team members to ensure efficient workflow and a positive shopping experience for customers.
 - Offered assistant manager and supervisor titles within a few weeks of employment due to my work ethic and delegation skills.

Assembler

08/2021 - 09/2021

- **Dana Incorporated** | Oakville, Ontario, Canada
 - Assembled mechanical and electronic components for automotive products, meeting daily production targets efficiently and achieving minimal production errors.
 - Maintained high quality standards for products by conducting quality checks regularly, achieving a high accuracy rate with zero- defects

Order Picker

07/2021 - 08/2021

- **Wallace & Carey Inc.** | Oakville, Ontario, Canada

- Executed daily order fulfillment duties utilizing a warehouse management system, picked and packed product and maintained high accuracy on order shipments.
- Assisted in the packaging of over hundreds of products per week
- Operated machinery such as pallet jacks, safely transporting materials around the warehouse
- Collaborated with team members to meet tight deadlines, consistently completing projects ahead of schedule.

HMR Clerk

09/2023 - 07/2024

- **Loblaws Inc** | Ontario, Canada
 - As an HMR Clerk at Loblaws Supermarket, I excel in customer engagement, guiding patrons to select quality meal options. My role involves meticulous food preparation, ensuring adherence to safety standards. I effectively manage inventory, optimize stock levels and minimize waste.

PROJECTS

Roguelike Game

June 2024 - Current

- Developing a Vampire Survivors-esque game using Unity.
- Contains procedural map generation, multiple enemies, characters, weapons, etc all using pixel art.
- Employed some optimization strategies to support an infinitely generating map.

Battleship Solitaire AI

November 2024 - November 2024

- **University of Toronto**
 - Implemented Battleship Solitaire AI by framing it as a constraint satisfaction problem using Python to maximize solution efficiency.
 - Executed forward checking and domain pruning using AC-3 algorithm, enhancing AI problem-solving capabilities.
 - Engineered solutions using enhanced backtracking search and forward checking with MRV heuristic.

Checkers AI

October 2024 - October 2024

- **University of Toronto**
 - Engineered an advanced Checkers AI, implementing a Minimax algorithm with alpha-beta pruning.
 - Designed a user-friendly interface for the checkers game employing PyGame library and object-oriented programming techniques.

Klotski AI

September 2024 - September 2024

- **University of Toronto**
 - Created a framework for the game using object oriented programming.
 - Implemented Klotski AI solver utilizing game state search.
 - Employed A* search algorithm with a heuristic based on Manhattan distance.

Text Adventure Game

November 2023 - December 2023

- **University of Toronto** | github.com/gabrielsmith1874/My-Projects/tree/main/Adventure%20Game
 - Developed a text-based adventure game utilizing natural language processing to enhance user accessibility and engagement.
 - Integrated advanced Google Cloud APIs, enabling seamless voice recognition and multilingual support through natural language processing and MaryTTS, broadening

accessibility to visually impaired and non-English speaking players.

- Developed dynamic game mechanics utilizing object-oriented principles and incrementally modified framework to enhance gameplay experience.
- Facilitated regular team sprints and meetings within Agile framework evolving a game prototype.

Huffman Compression / Decompression

June 2023 - May 2023

- **University of Toronto** | github.com/gabrielsmith1874/My-Projects/tree/main/huffman
 - Implemented efficient Huffman compression and decompression algorithms in Python, optimizing for both speed and memory usage across diverse datasets.
 - Achieved over 80% compression rate by designing and implementing Huffman encoding.
 - Developed robust decompression algorithms maintaining 100% accuracy, ensuring no data loss post-decompression.

EDUCATION

Bachelor's degree in Computer Science and Statistics

- **University of Toronto Mississauga**
Mississauga, Ontario • 09/2022 - 04/2027

COURSEWORK

Introduction to Artificial Intelligence

2025

- **University of Toronto** | Python
 - Learned a variety of AI search techniques including A*, DFS, BFS, backtracking search incorporating forward checking and AC-3, Minimax and more.

Data Structures and Analysis

2024

- **University of Toronto** | Python
 - Developed data structures to solve real world tasks under certain complexity constraints Proved correctness and time complexity of algorithms.

Software Tools and Systems Programming

2024

- **University of Toronto** | C
 - Developed software and text-based games using C Created a shell framework with support for piping, redirection, execution etc.
 - Created a server to run a multiplayer text turn-based game using select().

Software Design

2023

- **University of Toronto** | Javascript
 - Worked on a large project in a small group Learned about UML diagrams, scrums, waterfall and general collaboration skills Focused on adding accessibility features to games.

Computer Organization

2023

- **University of Toronto** | Assembly
 - Learned how code is assembled by an assembler Coded Sokoban using assembly and basic I/O like a light board and D-PAD Read and operated on binary, octary, and hexary.

SKILLS

Algorithm Design, C, C#, Java, Object Oriented Programming, Python, Assembly, Time/Correctness Analysis, Artificial Intelligence