Inderpreet Warraich

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EDUCATION

Wilfrid Laurier University   Waterloo, Ontario
Bachelor of Science (Honours), Computer Science   *Expected Graduation: April 2025*
- Relevant Courses: Data Structures & Algorithms, Introduction to C and UNIX, Objects & Design, Object-Oriented Programming, Web Systems Development

EXPERIENCE

Freelance IT Project Developer   November 2023 - December 2023
Victoria Village Children's Services Ltd   *Brampton, Ontario*
- ∗ Conducted a comprehensive analysis of the existing payroll process at Victoria Village Children's Services Ltd, identifying inefficiencies and inaccuracies, and researched various payroll systems to inform the development of a streamlined solution.
- ∗ Spearheaded the development of an Excel-based payroll management application using VBA, enhancing administrative efficiency across the organization.
- ∗ Designed intuitive user interfaces for efficient data entry and payroll management, featuring focused input windows to ensure accuracy and ease of use.
- ∗ Implemented custom functions to automate complex calculations, significantly reducing manual errors and processing time, thereby improving operational efficiency.

Data Analysis and Management Intern   May 2021 – August 2021
Centum Mortgage Smart Inc.   *Mississauga, Ontario*
- ∗ Assisted in the development and maintenance of SQL databases, contributing to the streamlining of mortgage data management processes.
- ∗ Utilized Python for basic data analysis tasks, aiding in the extraction of meaningful insights from large datasets.
- ∗ Collaborated with the finance team to understand mortgage concepts and processes, enhancing my practical knowledge and application skills.

PROJECTS

Mario AI Project | *Python, Stable Baselines3*
- ∗ Trained an AI agent to play Super Mario Bros using reinforcement learning with the PPO model from Stable Baselines3.
- ∗ Configured the Mario environment for training and evaluation using Gym-Super-Mario-Bros and NES-Py.
- ∗ Implemented custom callbacks for periodic saving and evaluation during training, leading to an AI that maximized scores while minimizing deaths over 1,000,000 steps.

3D Rubik's Cube | *C++*
- ∗ Developed an interactive 3D simulation of a Rubik's Cube using OpenGL and C++, demonstrating advanced skills in computer graphics and 3D rendering.
- ∗ Implemented a robust architecture comprising multiple classes (Square, RubiksCube2x2, World) to manage the cube's state and render it accurately in a 3D space.
- ∗ Utilized OpenGL's matrix transformations for realistic 3D rendering and animation, enhancing the user experience with visually appealing graphics.

Point-of-sale System | *SQL, Python*
- ∗ Developed a comprehensive POS system using SQL and Python.
- ∗ Implemented a user-friendly interface for inventory and sales management.
- ∗ Utilized SQL for database management, ensuring secure and organized storage of product information, customer data, and transaction records.

Top-down Shooter mini-game | *Lua, Love2d*
- ∗ Developed an engaging top-down shooter mini-game using Lua and Love2d.
- ∗ Designed intuitive gameplay mechanics and enemy AI behaviors.
- ∗ Demonstrated strong problem-solving skills and creativity in designing and implementing a captivating and enjoyable top-down shooter game.

TECHNICAL SKILLS

Languages: Python, C++, SQL, Lua, Java, C#, VBA, HTML, CSS
Frameworks: Stable Baselines3, OpenGL, Love2d, Git
Libraries: NES-Py, NumPy, pandas, Matplotlib