Huzaifa Farhan | Software Engineer

Toronto, Ontario | +1 (289)996-4696 | huzaifa.farhan042@gmail.com |
http://www.huzaifafarhan.com/

Projects

PATHFINDING VISUALIZER: Developed using **React**, implementing **Dijkstra's Algorithm** to find the shortest path. Designed a dynamic **40x50 grid** with real-time **user interaction** and **wall creation** capabilities. Implemented **state management** and **mouse event handling** for **responsive** grid updates. Created **CSS animations** to visually represent the algorithm's progress and the shortest path.

ARDUINO TEMPERATURE SENSOR: Interfaced with **Arduino** using **pyfirmata** to read analog sensor data. Calculated temperature based on **voltage readings** and resistance values and implemented **error handling** for robust calculations.

IMAGE-TO-TEXT TOOL: Integrated **Python** with **Tesseract OCR** for text extraction and annotation from images, used **cv2** for image processing, and **PIL** for handling image files.

SUDOKU SOLVER: Developed a **Python**-based Sudoku solver with **recursive backtracking** and simulated human-like input for solving and printing the grid using **pyautogui**.

TYPING GAME: Developed using **JavaScript, CSS, and HTML5**, featuring real-time feedback with color-coded correctness, a countdown timer, and Words Per Minute calculation.

PING-PONG GAME: Created with **JavaScript and HTML5 Canvas**, including round-based scoring, **dynamic player** and **AI controls**, adaptive AI, color themes, smooth animations, and collision detection.

CHESS GAME: Built with **JavaScript, HTML, and CSS**, featuring dynamic piece movement, **real-time board updates**, custom game logic, responsive board coloring, **image handling**, and a reset button.

Experiences

RELIABILITY ENGINEER | IKO INDUSTRIES LTD | MAY 2021 – APR 2022
- Researched and standardized plant parts in Excel, creating accessible item lists and an ordered industry parts database for supervisors and the company's **SQL database** use.
- Developed preventative maintenance tasks in Excel through **VBA** for electricians and mechanics, providing an organized list of jobs for specific plant systems to ensure proactive maintenance.
- Conducted thorough **failure mode analysis** for plant systems using business documentation and online resources, identifying diagnostic methods to anticipate and prevent systemic problems, enabling timely intervention by electricians and mechanics.

PROJECT MANAGER | KGS RESEARCH | SEPT 2020 – NOV 2020
- Delivered an average of **8 survey projects** daily, enhancing efficiency and productivity in a fast-paced work environment.
- Utilized advanced **Excel** and **VBA** to create samples and spreadsheets, empowering call center agents to surpass quotas.
- Exhibited strong multitasking capabilities, monitoring the progress and runtime of up to **5 projects** simultaneously.
- Demonstrated effective leadership in managing company servers and a team of **100** call center agents, implementing strategies that exceeded quotas and led to positive turnovers.

Education

- **BACHELOR OF ENGINEERING IN SOFTWARE | ONTARIOTECH UNIVERSITY | SEPT 2022 - CURRENT**

- **BACHELOR OF APPLIED SCIENCE IN CHEMICAL ENGINEERING | UNIVERSITY OF WATERLOO | SEPT 2019 – APRIL 2022**

References Available Upon Request