rayyan-khan.com
github.com/RayyanKhan48

RAYYAN KHAN

+1 (437) 219-2224
rayyankhan284@gmail.com

EDUCATION

Toronto, Canada **University of Toronto** **Spring 2025 (Expected)**

- **Major**: Mechanical Engineering, B.A.Sc. (GPA: 3.43)
- **Minors & Certificates**: Artificial Intelligence, Robotics & Mechatronics, Business
- **Relevant Courses**: Data Structures & Analysis, Applications of ML, Analog & Digital Electronics

SKILLS

- **Software**: (*proficient*) Python, Perforce, Unix, MATLAB, Figma (*familiar*): C++, Perl, SQL, HTML, CSS, JavaScript
- **Interpersonal**: Communication, Process Improvement (LEAN Six Sigma), Adaptability, Teamwork

EMPLOYMENT

ASIC Design & Verification, Intern **Advanced Micro Devices (AMD)** **Summer 2023 – Spring 2024**

- Built test bench components such as libraries and models by applying objected oriented programming techniques while using advanced verification languages such as SystemVerilog and UVM
- Developed scripts using Python and Perl which identified and resolved critical issues within a code line before being submitted to the Jenkins Submission Server
- Leveraged knowledge in Python, Perl, SystemVerilog and UVM

Automation Technician, Intern **Kromet International** **Summer 2023**

- Automated a new palletizing routine on the Yaskawa DX200 industrial robot controller allowing for an increase in efficiency of 27%
- Designed a new gauge system on SolidWorks and nanoCAD that managed to check for cuts and extrusions of various parts allowing for better inspection of parts
- Leveraged knowledge in Solidworks, nanoCAD, basic scripting, manufacturing

PROJECTS

FaceToon ML Model

- Developed a machine learning model incorporating the Python libraries of Numpy and Tensorflow which converted real life images to a cartoon style of the user's choice
- Optimized the neural transfer code as the baseline model allowing for multiple styles to be merged
- Incorporated CycleGAN's to the model that allowed it to generate new styles that wasn't in the original dataset
- Utilized: Python, Numpy, Tensorflow, CycleGAN's

Klotski Puzzle Solver

- Executed the program in Python with a high success rate while also demonstrating a strong understanding of data structures and algorithms to efficiently explore puzzle states
- Implemented A* search, incorporating the Manhattan distance, for heuristic-driven searches and Depth First Search for an in-depth exploration of complex configurations
- Employed visualization tools to display the solving process and results
- Utilized: Python, searching methods

SustainU

- Created an innovative rewards-based website that encouraged students to participate in sustainable activities throughout campus while earning points along the way
- Designed the user interface and user experience (UI/UX) in Figma, while adhering to responsive web design (RWD) principles to ensure optimal user experience on various devices
- Developed interactive features using HTML, CSS, and JavaScript, allowing students to log their environmental acts and redeem earned points
- Presented the prototype to a panel of judges, highlighting its potential impact on promoting environmental sustainability on campus and was awarded the Best Nature Hack as part of the hackathon competition
- Utilized: HTML, CSS, JavaScript, Figma