HEMSHIKHA SULTOO

hemshikha.sultoo@ontariotechu.net | https://www.linkedin.com/in/hemshikha/ | (289)-988-8280

EDUCATION & HIGHLIGHTS

Ontario Tech University   *September 2017 – Present*

- Bachelor of Engineering – B.Eng., Software Engineering with Specialization in IoT.
- Passion for building AI-powered, smart, and secure systems to help simplify life.
- Graduation date: June 2023

Technical Skills

- Over 3+ years of programming experience in object-oriented languages such as Java, C++, Python, Perl.
- Proficient in C, HTML, CSS, JavaScript, PHP, JSON, MySQL.
- Excellent understanding of Data Structures and Algorithms.
- Experience in Android and app development.
- Sound knowledge in Artificial Intelligence (AI), Computer Vision, Speech Recognition, Machine Learning, Deep Learning.
- Experience in applying TensorFlow, OpenCV, Dlib, Google Speech Recognition API.
- Utilize rapid learning development tools such as Canvas (LMS), Canva, H5P and eCampusOntario to develop training content for technical audiences and administering learning management systems (Please refer to Professional Experience section below.)
- CAD Design software (SolidWorks).
- Experience with Linux (Kali, Ubuntu, Raspbian).
- Currently learning Ethical Hacking.

Soft Skills

- Multilingual: English, French, Hindi, and Mauritian Creole.
- Excellent communications, time, and task management skills
- Quick and enthusiastic learner.
- Seeks feedback and criticism to grow as a professional.
- Leadership and collaboration as a team.
- Creative and sound application of engineering principles to solve engineering projects.
- Excellent multitasking abilities.
- Creative/Entrepreneurial mindset.
- Excellent at working independently or as a team to design, implement and improve engineering projects.
- Goal-oriented and quality focused candidate.

ENGINEERING PROJECTS

Smart Temperature Detector and Regulator for Aquariums   *January 2022 - Present*

Designed and implemented a smart Arduino-based system to read the temperature of my aquarium. Current implementations include using voice commands to connect to and turn the aquarium heater on or off depending on whether the temperature is too hot or cold. Future implementations involve controlling the light panel and collecting data about how light and the heater affect the temperature of the water in order to find the optimum setting.

Smart Robot *January 2022 – Present*

Based on a Raspberry Pi embedded system and utilized Python, Artificial Intelligence (AI), Computer Vision as well as Speech Recognition. The robot will understand voice commands in order to move around and will utilize its sensors to avoid obstacles. Purpose of the project is to self-educate, learn, and have fun.

Toronto Neighborhood Segmentation and Clustering with Foursquare and K-Means Clustering *April 2022*

Performed Toronto neighborhood coordinates and postal code data scrapping on Wikipedia and utilized Foursquare API and Folium to plot and segment a map of the neighborhood respectively. Downloaded neighborhood data from Open Data – City of Toronto in the form of CSV files and processed them using, Python, Pandas, Matplotlib, SciPy, NumPy. K-Means clustering was used to find clusters between how social matters might be codependent and the results were then used to pinpoint the neighborhood that those social matters affected the most.

Workout Equipment Queuing System (Modelling and Simulation) *April 2022*

Individual project involved simulating a queuing system for an equipment at the gym. The aim of this project is to find a solution that can improve the waiting time and process to use an equipment at the gym. The simulation involves using an app and the NFC technology of a smartphone to tap into the queuing system. The app notifies the user when it is their turn to use the machine. As I future development of this project, I also presented the use of K-Means clustering to determine the relationship between arrival times, departure times and waiting times. Such information was used to elaborate on the fact that this system can further be used to accumulate and compile data (most expensive asset) to conduct a strategical decision-making process in order to improve the efficiency, customer service and the business overall.

Image Retrieval Software *April 2021*

Utilized the Radon based algorithm to design a barcode generator and search algorithm. Goal of the software is to use a test image to find similar images in the dataset. Using Python and NumPy, the test image was converted into a matrix which was manipulated into a unique barcode. Image search was performed using the unique barcode. The efficiency of the algorithm was measured by the percentage of hit and miss. This software can be applied in places like hospitals where X-Rays can be searched and compared for diagnosis.

PROFESSIONAL EXPERIENCE

Artificial Intelligence (AI) Multi at Ontario Tech University *May 2021 – April 2022*

Collaborated with the Ryerson University and the University of Guelph to create an AI related course for 1st year Engineering students. After complying to the AODA standards, the course is being set up on Canvas and eCampusOntario and is therefore fully virtually accessible and free. Involves research, program implementation, interactive presentations, learning activities, and projects. Some of the activities have been created using H5P and some are from websites such as Google Experiments. Topics include: The foundations of Artificial Intelligence, Machine Learning and Deep Learning, Applications of Artificial Intelligence, Core skills for thriving in the age of AI, Societal and ethical impacts of AI, The future of AI.

Administrative Assistant at Ontario Tech University *May 2021 – Present*

Conducted research for Co-op and Internship Office in order to develop scripts for a mandatory co-op and internship courses to help prepare students for their placements. Compiled statistics from spreadsheets for the Faculty of Engineering and Applied Science and create official reports to be posted on the university's website. Find meaningful connections to grow network. Designed inspirational digital media content.

Google Drive Project Portfolio

Please use the link below to see some of the projects that has been mentioned on the resume and some tutorial assignments:

https://drive.google.com/drive/folders/1RoOvopXE3OpfP-vpPUI1_5A36dr6VYnO?usp=sharing