**Aryan Patel**

aryan.patel2@uwaterloo.ca ❖| (437) 339-5154 ❖| github.com/aryanp05 ❖| linkedin.com/in/aryanpatel05

**EDUCATION**

**The University of Waterloo Waterloo, ON***Bachelors of Computer Science and Bachelors of Business Administration with 4.0 GPA April 2028*

* Relevant Coursework: Function Programing, Tools for Software Dev, Algorithm Design & Data Abstraction
* Extracurricular: Hackathon Executive, Computer Science Club, Data Science Club

**EXPERIENCE**

**Software Developer & LLM Engineer Sep. 2023 – March 2024***A.P.U.G. Club Waterloo, ON*

* Developed LooLearnAI (), a student-focus AI software that assists in academics by answering content-specific questions using course conventions and generating practise material using OpenAI API, Milvus, and Python
* Implemented sophisticated Natural Language Processing (NLP) techniques for semantic search and data vectorization, ensuring intuitive query understanding and resource discovery, to increase retrieval speed by 25%.
* Employed streamlined deployment and consistent application performance using the tool Docker.
* Used advanced Prompt Engineering to refine the AI insights into user queries and generating solutions and developed target algorithms including R.A.G. & R.S.E. to increase LooLearnAI answer accuracy from 78% to 93%

**Software Developer Sep. 2020 – Nov. 2021***Neonic Wraps Toronto, Ontarior*

* Designed and developed a fully functional and attractive e-commerce website using HTML, CSS, and JavaScript to increase customer conversion by 80%
* Managed online inventory and performed database queries using SQL on MongoDB to effectively track items and orders
* Operated an e-commerce business selling a diverse range of tech products, achieving $10k+ in sales.

**PROJECTS**

**Wildfire Path Predictor May 2024 – June 2024**

* Engineered the Wildfire Path Predictor for the Wildfire AI Hackathon 2024, utilizing PyTorch and Torchvision to create a hybrid model combining CNNs and LSTMs, accurately predicting wildfire spread by processing spatial and temporal data from satellite imagery and climate variables.
* Leveraged satellite data from MODIS, VIIRS, and IBAND to train AI models, incorporating fire weather data, enhancing wildfire prediction accuracy.

**GetTrash Garbage Identifier May 2024 – May 2024**

* Created GetTrash, a web app leveraging Python, TensorFlow, and Streamlit for real-time waste sorting through live video scanning and image captioning, achieving third place at the Google Developer SC-hosted Hack With AI event.
* Created a robust garbage classification model using TensorFlow, trained a CNN architecture and leveraging large online data sets of over 16,000+ photos to identify trash to a high accuracy

**Meerkat ASL April 2024 – May 2024**

* Developed a sign language interpreter with machine learning techniques and Scikit-Learn leveraging OpenCV to capture a dataset of over 40,000 images
* Implemented a preprocessing pipeline to extract and preprocess hand landmarks using Mediapipe achieving efficient representation of sign language gestures for input into a neural network model

**TECHNICAL SKILLS**

**Programming Languages:** Python, C++, C, HTML, CSS, JavaScript, Bash, Git, Racket, SQL

**Technologies:** Flask, OpenCV, Tensorflow, PyTorch, Docker, Kubernetes, Git, Milvus, Rasterio, Streamlit