Gurnika Kaur

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TECHNICAL SKILLS

Languages: Python, R, SQL
Libraries: Tensorflow, Keras, Numpy, Pandas,Matplotlib,Tensorflow, Pytorch, Scikit-Learn, OpenCV, Mediapipe, Beautiful Soup
Certifications: Google Data Analytics, IBM Machine Learning Professional Certificate
Business Intelligence Tools: Git,Tableau, Power BI, Botpress

WORK EXPERIENCE

AI Engineer Intern | Python, Tensorflow,Keras, Scikit-Learn, OpenCV**,** Beautiful Soup **New York, NY**
RadicalX May 2023 – Aug 2023

- Designed and implemented a **face proctoring system** integrating **facial detection and recognition models** on **real time video**, capable of **flagging potential cheating** across the entire education platform.
- Automated the system to capture images when deviation **in prescribed facial coordinates** or presence of **additional individuals are detected.**
- Implemented additional features in the system making it capable of applying **a face mesh** on the user's face, capturing it **every 5 secs** as well as when any **unrecognized faces are detected.**
- Utilized **transfer learning with VGG-19 CNN** model to achieve **90% accuracy** classifying user proctoring session images as cheating or not-cheating, after training the model with an **additional custom dataset** of **4000** images.
- Developed a **Programming Chatbot** by building a custom **StackOverflow web-scraper**, organizing data collected into **a Q and A format**, and using it to **fine-tune Falcon-7B LLM** to answer programing queries asked by the user.

Quality Analyst | Python, SQL, PowerBI **Mississauga, Ontario**
Hatch May 2022-Aug 2022

- **Automated daily report generation** to analyze the factors affecting client satisfaction better leading to 20% increase in project bidding win rates.
- Created new **PowerBI dashboards** to gain insights and visualize monthly data to overhaul monthly reports.
- Automated the process **of EDA using SQL** for analysts and Quality Leads, saving **20 minutes of work** daily.

PROJECTS

Better Call Paul

- Built a **personal AI lawyer chatbot**, with a backend built using **Flask**, capable of providing legal advice, explaining laws and building defense strategy, trained on documents of provincial and federal US laws.
- Used **GPT-4 LLM** to train the model and **Langchain** to build pipeline between dataset and servers.

Family Photo Revival

- Designed and implemented an advanced image restoration and **colorization** leveraging **Autoencoder Neural Networks** to **denoise** and revitalize black and white photographs using **OpenCV, Tensorflow, Keras** and **Scikit Image**
- Achieved an accuracy of **70%** for the image denoiser and **82%** for the image colorizer against Kaggle datasets.

Trash Talk

- Developed an application educating users on waste segregation, allowing users to describe objects using text, speech, or images.
- Built a **Multi-Class CNN** model using **Keras** which categorizes images into **12 different groups**.
- Trained **an NLP model** using **Cohere API,** to determine the garbage category even with vague descriptions. Implemented **Google Text to speech API** to input speech and generate audio output.

Comment Toxicity Model

- Developed **a Deep Neural Network Comment Toxicity Model** using **Keras** to detect the intensity of toxicity, Obscenity, and threat level of a comment by utilizing **NLP.**
- The model reached an **accuracy rate of 84%** and **precision rate of 87%**. It was then submitted to the Kaggle Toxic Comment Classification Challenge as part of the competition.

EDUCATION

Bachelor of Mathematics (Honors), 2026, University of Waterloo
Major - Statistics *Extra Curriculars- Actsci Club (Publicity Director Winter 2023), Mathsoc (Director)*