Robin Manchanda

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SKILLS

- **Languages & Tools:** Python (e.g., NumPy, Pandas, Matplotlib, Seaborn, Sci-kit Learn, Beautiful Soup, OpenCV), Keras, TensorFlow, SQL, Flask, Tableau, Git
- **Data Science Skills:** Regression (Linear, Multiple-Linear, Polynomial, SVR, Random Forest), Classification (Logistic, Naïve Bayes, SVC, Random Forest, KNN), Clustering (K-means), Anomaly Detection, Deep Learning (CNN, RNN, LSTM), Hypothesis Testing

EDUCATION AND HONORS

Post-Graduate Certificate: Applied A.I. Solutions Development Program September 2021 – August 2022
George Brown College, Toronto, ON

- GPA (First Semester): 3.81/4.0
- **Relevant Coursework:** Applied Machine Learning, Deep Learning, Statistics, Data Visualization, Ethics In AI

Post-Graduate Certificate: Artificial Intelligence Analysis, Design, and Implementation January 2021 – August 2021
Durham College, Oshawa, ON

- Cumulative GPA: 4.96/5.0, College Honor Roll

Bachelor of Technology: Electronics & Communication Engineering June 2013 – June 2017
Kurukshetra University, Kurukshetra, India

WORK EXPERIENCE

Junior Data Scientist November 2019 – December 2020
Electronics Corporation of India Ltd., North Zone, Delhi

- **Automatic Manufacturing Defect Detection using Images for Electronic Voting Machine (EVM):**
  - Implemented machine learning and deep learning techniques to detect manufacturing defects in EVM.
  - Captured 5000+ images and labeled them as positive or negative class. Utilized OpenCV & TensorFlow to preprocess the images. Built a convolution neural network (CNN) by using Keras and achieved an accuracy of 86%.
  - Presented results to team's global head and wrote requested executive summary detailing value proposition and strategy to implement it.

Customer Service Representative (Part-time) July 2021 – Present
Canadian Tire, Brampton, ON

- Promote, and upsell various products and services based on the recommendation from costar, which increased the sale by 10%.
- Achieved 95 % customer satisfaction by identifying specific needs of existing customers and informing them on relative product features.

ACADEMIC PROJECTS (GitHub)

Image Caption Generator (GitHub):

- For a given image, the goal is to generate a descriptive caption by combining computer vision and natural language processing.
- Gathered 8000+ images and 40000+ captions from Kaggle. Used pre-trained VGG-16 to extract features from images and embedding & LSTM layers to create text encodings.
- Finally, built an autoencoder that can predict the next word for an input image's encoding and text sequence.

Covid-19 Detection Using Chest X-Ray (GitHub):

- Utilized Scikit-learn and TensorFlow to implement machine learning and deep learning techniques to classify chest x-ray images into positive or normal classes.
- Acquired 2200+ images from multiple sources and used NumPy and Pandas to perform EDA and feature engineering such as data augmentation, which increased the f1-score by 18%
- Built a majority voting classifier that outperforms the other algorithms with an f1-score of 0.97 for test data.

Real-time Face Mask Detection using TensorFlow Object Detection API (GitHub):

- Implemented a script to capture images (with mask & without mask) and annotated it using labelimg.
- Configured the training pipeline to train SSD MOBILE NET V2 FPN 320*320 model.
- Utilized OpenCV and trained model to create real-time detections.

INTERESTS

Languages: English (Fluent), Hindi (Native), Punjabi (Native)

Hobbies: Traveling, Cricket, Cooking, Dancing, Reading