

TECHNICAL SKILLS

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| Programming | Python, Data Structures and Algorithms |
| Machine Learning & Deep Learning | Classification & Regression, Boosting, Clustering, Neural Networks, CNN, RNN, LSTM, Transfer Learning, Feature Detection, Object Detection, YOLO, ORB, Computer Vision |
| Libraries | Pandas, NumPy, Scikit-Learn, PyTorch, TensorFlow, Keras, OpenCV, Matplotlib, Seaborn |

WORK EXPERIENCE

Machine Learning Engineer – Spectral Tech Private Limited

Nov 2021 – Aug 2023

- Led research and development of surveillance software based on video processing with object detection.
- Optimized algorithm to decrease false detection rate and bring down the boot time and speed of algorithms.
- Developed ETL & Analytics solutions on Azure using Databricks, Azure Blob Storage (Gen2), and PowerBI.

Research & Development Engineer – Ampviv Healthcare Private Limited

Sept 2020 – Sept 2021

- Responsible for analysis, implementation, development, performing preliminary testing and deployment of the product being developed by the company along with writing, editing and maintaining reports.
- Led the complete development of the Machine Learning framework used by the product and partly of the Image Processing work along with other team members under the guidance of the mentor.

PERSONAL PROJECTS

Facial Key points Detection

- Built a Facial Key points Detection model using a CNN that takes in any image with faces, predicts the location of 68 distinguishing key points on each face, and marks them at their correct position on the face.
- The Regressor generated SmoothL1 Loss of 0.112 during training. Key points generated for unseen images were accurate.

Automatic Image Captioning

- Built a CNN-RNN neural network architecture to automatically generate captions from images describing that image. The network consists of a pre-trained ResNet50 CNN encoder connected to an RNN decoder.
- The model generalized on COCO dataset with a Cross Entropy loss of 1.944

Employee Attrition Prediction

- Built a model that predicts the chances of Attrition of an employee working at IBM.
- Achieved 84% Precision using XGBoost on a highly unbalanced dataset consisting of 35 varying parameters.

Credit Card Fraud Detection

- Built a Classifier to detect Fraud Card Transactions with a dataset of 284,807 transaction details using Random Forest.
- Tuned the Decision Threshold of Random Forest Classifier to get an optimum balance between Precision-Recall Tradeoff. Finally, it was tested on an unbalanced test dataset and achieved 90% Precision, 70% Recall and 85% AUC score.

EDUCATION

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| Ontario Graduate Certificate – Data Analytics | 2024 – 2025 |
| Durham College, Oshawa, Ontario | |
| Ontario Graduate Certificate – Artificial Intelligence | 2023 – 2024 |
| Durham College, Oshawa, Ontario | |
| Computer Science Engineering – B.Tech. | 2015 – 2019 |
| Dronacharya College of Engineering, India | |