BHAVYA CHHABRA

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TECHNICAL STACK

Programming Languages: Python, Java, C++, JavaScript, jQuery, React, PHP, HTML, CSS, Git, cURL
Data Science Tools: Numpy, Pandas, TensorFlow, Keras, PyTorch, Scikit-Learn, LangChain, FastAI, OpenCV, Scrapy, Matplotlib, PySpark, Statistical Modeling
Database and Cloud Technologies: SQL, NoSQL, BigQuery, MongoDB, HIVE, Hadoop, Map Reduce, Docker, Google Cloud, AWS (EC2, S3, Redshift), Alpine, Data Mining, Neural Networks, Linux, FastAPI, REST

WORK EXPERIENCE

London Hydro — **London, CA**
Business Systems Analyst - Machine Learning & Systems Development — ***May 2023- Present***

- Developed a **Convolutional Bi-Directional LSTM** model to identify Electric Vehicle customers using hourly electricity consumption data **(Time Series)**, to facilitate efficient load handling in power plants *(Test Accuracy: 87%)*.
- Designed and integrated **ChatGPT** based internal Chatbot into the existing system that significantly enhanced customer interaction by 40% with **LangChain**.
- Optimized billing **forecast** accuracy via **XGBoost** Decision Trees, slashing Mean Absolute Percentage Error (MAPE) from 22% to 8%.
- Led a strategic collaboration with the Green Button Alliance to develop an informational and registration **web portal** directory utilizing frontend **JavaScript, jQuery** and **React** streamlining customer access to green initiatives.
- Engineered **DevOps** Dashboards for **automated** daily system monitoring and invoice error identification, using **Shell**, **Python**, **Nagios XI** and **Looker Studio** by creating **custom plugins**, microservices and dashboards resulting in **5x** increase in operational efficiency.

CapmAI — **Remote**
Machine Learning Engineer — ***Jan 2023- May 2023***

- Collaboratively designed and trained a **Vision Transformer** model on **AWS** for 12-class anomaly detection within the Gastrointestinal (GI) system, achieving 93% accuracy and 95% sensitivity, thereby substantially reducing diagnostic times.

Intellipoint Consulting Inc. — **Ashburn, USA**
Data Science Intern — ***May 2020- Jul 2020***

- Enhanced **Apriori** and **DBScan Clustering** models' predictive accuracy by 10%, boosting client sales by 20% through comprehensive data and **market-basket analysis**.
- Implemented **churn prediction** and **customer segmentation** for retail clients using the **Random Forest** algorithm, significantly improving client retention strategies.

EDUCATION

The University of Western Ontario — **London, CA**
Masters in Computer Science w/ specialization in Artificial Intelligence (*GPA: 3.9/4.0)** — ***Sep 2021-Jan 2023

S.R.M Institute of Science and Technology (SRMIST) — **Chennai, IN**
B.Tech in Computer Science Engineering (Percentage: 89%) — ***Jul 2017-Jun 2021***

PROJECTS

Autonomous Drone for Infrastructural Inspection and Fault Detection — ***Nov 2022***

- Programmed an **open-source drone** to autonomously navigate and inspect building infrastructures for faults using **YOLOv7**, achieving an 88.5% mAP score and 0.8 Seg Loss, showcasing real-time **crack detection** and video streaming capabilities, prototyped using **Raspberry PI** on board.

Advanced Multi-Class Text Classification using LSTM Networks with Hierarchical Attention — ***Jan 2022***

- Developed an **LSTM**-based model with **GloVe** embeddings and hierarchical attention for enhanced accuracy on the DBPedia dataset, demonstrating proficiency in **Natural Language Processing (NLP)** and **deep learning** techniques.

Stellar Object Classification and Comparative analysis of ML Classification Algorithms — ***May 2022***

- Conducted **feature** engineering, data manipulation and evaluated six **ML** algorithms—Random Forest, XGBoost, AdaBoost, Decision Tree, Naïve Bayes, Deep CNN—on Kaggle's Stellar Dataset, with Deep CNN emerging as the most accurate.

Melanoma Skin Cancer Classification using a Custom Integrated Model — ***Jun 2021***

- Innovated a **hybrid** model combining **Convolutional Neural Network (CNN)** with a **tabular model** using **PyTorch** and **FastAI** for Melanoma classification, achieving 96% accuracy and a 92% ROC score, utilizing the **StreamLit** platform for user interaction.

Forecasting U.S Elections 2020 — ***Jul 2020***

- Predicted President Joe Biden's victory through **sentiment analysis** and **Natural Language Processing** techniques using Twitter data.

CERTIFICATIONS

- AWS Machine Learning Certification (Pursuing)
- Certified Scrum Product Owner (Agile Methodologies) by Scrum Alliance *Aug 2021*
- DeepLearning AI TensorFlow Developer Specialization offered by deeplearning.ai on Coursera *Oct 2020*
- Machine Learning by Stanford Online on Coursera *Jan 2020*
- Big Data Analytics with Python, Hadoop, HIVE by Centre for Development of Advanced Computing *Jul 2019*