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, deployed to accurately identify and segment **30,000+** Electric Vehicle customers using hourly electricity usage data, leading to a **20%** increase in efficiency for load handling in power plants.
- Designed and integrated **ChatGPT** with **LangChain,** enhancing customer service interactions by **40%** and improving the query resolution time by **25%**, positively impacting over **50,000**+ customer interactions.
- Optimized the billing forecast system using **XGBoost** Decision Trees, reducing the Mean Absolute Percentage Error (MAPE) from 22% to 8%, directly benefiting over **100,000** billing accounts by enhancing forecast accuracy and customer satisfaction.
- Led a multi-functional team in a strategic collaboration with the Green Button Alliance to develop a **web portal**, improving customer access to green initiatives and resulting in a **30%** increase in program enrollment.
- 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 resulting in **3x** increase in operational efficiency.

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

- Co-led the development of a **Vision Transformer** model for **anomaly detection** within the Gastrointestinal (GI) system, achieving 91% accuracy and 94% sensitivity in simulated environments and is poised to significantly reduce diagnostic times by 40%.

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,** impacting over **30+** retail outlets nationwide.
- Implemented a **customer segmentation** strategy that improved client retention by **15%** through targeted marketing and personalized shopping experiences.

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. Projected to reduce inspection times by 50% and increase human safety by 90%.

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, which was adopted by professor to enhance their research categorization processes.

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, as a research project.

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, to be potentially deployed on a mobile device and provide remote, fast and accurate diagnosis using an App.

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

- Predicted President Joe Biden's victory through **sentiment analysis** and **Natural Language Processing (NLP)** techniques using Twitter data before the elections.

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*