Bhavya Chhabra

+1 519-697-2236 | bchhabr2@gmail.com | <u>Linkedin</u> | <u>Github</u> | <u>Portfolio</u>

EDUCATION

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

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

EXPERIENCE

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

- Directed client engagements for mobile application development, orchestrating an outsourced team of developers to deliver application updates, troubleshoot issues, and roll out new functionalities. Meticulously documented project requirements, issues, managed development sprints, and conducted stakeholder meetings to ensure seamless execution and adherence to timelines.
- 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.
- Integrated **ChatGPT** with **LangChain**, enhancing customer service interactions by **40%** and improving the query resolution time by **25%**, positively impacting **30,000** customer interactions per month. Deployed as a webapp on local servers
- Optimized the billing forecast system using XGBoost Decision Trees, reducing the Percentage Error by **60%**, directly benefiting over **100,000** users by enhancing forecast accuracy and customer satisfaction.
- Engineered **DevOps** Dashboards, 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.

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

- Co-led the development of a **Vision Transformer model** for **polyp 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
- Screened, interviewed, and hired machine learning interns, enhancing team capabilities and contributing to the project's success through strategic talent acquisition.

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

- 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 clustering** strategy that improved client retention by 15% through targeted marketing and personalized shopping experiences.

TECHNICAL SKILLS

Languages: Python, Java, C++, JavaScript, SQL, NoSQL, BigQuery, MongoDB, HIVE, jQuery, React, PHP, HTML, CSS, Git, cURL
Frameworks: TensorFlow, Keras, PyTorch, Sklearn, LangChain, SQL, NoSQL, BigQuery, MongoDB, HIVE, FastAI, OpenCV, Flask, REST, Matplotlib, PySpark, Statistical Modeling
Developer Tools: Git, Docker, Google Cloud Platform, Amazon Web Services, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: Pandas, NumPy, NLTK, Transformers, Huggingface, Matplotlib, Seaborn, Selenium, Scrapy

Projects

Autonomous Drone for Infrastructural Inspection | *Python, C++, PyTorch, Raspberry Pi*   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
- Implemented real-time crack detection and video streaming capabilities and prototyped using **Raspberry PI** on board.
- Projected to reduce inspection times by **60%** and increase human safety by **90%**

Multi-Class Text Classification using LSTM with Hierarchical Attention | *Python, PyTorch*   Jan 2022
- Developed an **LSTM**-based model with **GloVe** embeddings and hierarchical attention for enhanced accuracy on the DBPedia dataset, which was adopted by a professor to enhance their research categorization processes.

Stellar Object Classification & Comparative analysis of ML Algorithms | *Python, Tensorflow*   May 2022
- Conducted feature engineering, data manipulation, training, 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 | *Python, FastAI*   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, deployed using Streamlit.

Forecasting U.S Elections 2020 | *Python, Sklearn, Tensorflow, Matplotlib, NLP*   Jun 2021
- 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)   Present
- 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