Harbhajan Singh
Data Scientist

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TECHNICAL SKILLS

Programming Languages	Python, R, SQL, C, LaTeX
Libraries & Frameworks	Scikit-learn, Tensorflow, Keras, PyTorch, Transformers, YOLO, OpenCV, MediaPipe, dlib, caffe, NLTK, SpaCy, ScanPy, Pandas, NumPy, SciPy, Scikit-learn, matplotlib, seaborn, plotly, PySpark, CNN, RNN, Flask, FastAPI, Streamlit, Docker, Kubernetes, SQLite, Linux, MLflow, huggingface
Database	MSSQL, MySQL, Impala, MongoDB
Tools	Git, GitHub, Advanced MS-Excel, Talend ETL Tool, UNIX Tools, Shell Scripting, Jupyter NoteBook, RStudio, Anaconda, SSMS, Cloudera, Big Data, MS-Suite, JIRA, Spyder, VS Code, Google Colab, Azure Power Platform, Prompt FLow, Azure OpenAI Services
Visualization Tools	Tableau, Power BI, Google Data Studio
Data Science Skills	Data Analysis, Data Mining, Data Cleaning, Statistical Analysis, Predictive Analysis, Time Series Forecasting, Statistics, Recommendations System, Machine Learning, Deep Learning (ml), Computer Vision, Artificial Intelligence (ai), Generative AI, Natural Language Processing (NLP), Large Language Models (LLM), Semantic Kernel, Langchain
Cloud Deployment	Google Cloud Platform (GCP), Microsoft Azure, Heroku
Web Development	HTML, CSS
Core Competencies	Analytical and problem-solving, Critical Thinking, Team Leader, Time Management, Business Acumen, and Communication skills

EDUCATION

Master of Applied Computing (Specialization in AI), *University of Windsor, Windsor, ON Canada*	JAN 2023 - APR 2024
Bachelor of Technology (In Computer Science & Engineering), *Galgotias University, Greater Noida, India*	JUL 2016 - JUL 2020

WORK EXPERIENCE

Artificial Intelligence Developer Intern   JAN 2024 - Present
Agriculture and Agri-Food Canada - Government of Canada   *Harrow, Ontario*

- Developing and implementing automated test scripts for a chatbot utilizing Azure OpenAI services, including Prompt Flow, Semantic Kernel, LangChain, and Power Automate, to enhance the functionality and efficiency of the system.
- Contributing to the improvement of chatbot performance and user experience by leveraging innovative AI technologies, demonstrating proficiency in test automation methodologies and tools within a collaborative team environment.

Data Analyst   MAY 2021 - NOV 2022
TATA CONSULTANCY SERVICES   *Bengaluru, India*

- Collaborated with stakeholders and reporting & analytics team at a leading global investment banking and financial services firm (Credit-Suisse) to construct and deploy data-driven solutions using Python, SQL, and other tools & software.
- Designed and accomplished metadata pipelines to efficiently store and process large data sets by improving performance, empowering data scientists to formulate predictive models and forecasts for customer queries and solutions.
- Led & managed value-added projects, including the development of a rule-based Chatbot by utilizing NLP techniques and the creation of two innovative products i.e. SQL checklist matching and JIRA monitoring, and achieved high accuracy and efficiency.
- Applied a range of tools and technologies including Tableau, DataLake, and Azure Clouds to perform exploratory data analysis, feature engineering, and model training and evaluation for a variety of business use cases.
- Applied Time Series forecasting to predict the number of requests and reports raised and requested by users & customers.
- Leveraged AI and ML to produce reports, resulting in an 85% reduction in manual efforts for business analysts and customers.
- Enhanced and optimized data processing and data modeling workflows to ensure maximum efficiency (increased efficiency by 90%) and accuracy while working alongside cross-functional teams to propel business outcomes and solve complex problems.

Machine Learning Engineer   FEB 2021 - MAY 2021
ARTIFUTECH PVT. LTD.   *Gurgaon, India*

- Developed and executed computer vision algorithms for image processing and anomaly detection leveraging camera feeds.
- Implemented a Face AI application predicting wrinkles, dark circles, age, skin glow, and dark spots on human faces and achieved accuracy up to 93.50%.
- Deployed 7 web-based Artificial Intelligence and Machine Learning applications on the Heroku server.
- Led end-to-end deployment of deep learning models on cloud platforms, specifically on Azure and Google Cloud.

Data Engineer MAY 2020 - JAN 2021
TECHNODATA ANALYTICS SERVICES *Noida, India*
- Produced reports with the help of SQL Server, MySQL, Talend ETL Tool, and created dashboards to visualize dataset for healthcare and manufacturing clients based on specific requirements. Improved customer feedback and suggestions.
- Proposed and contributed to two value-added projects, including a customer retention program in e-commerce and a web-based duplicate checker tool. Used Python for coding and worked on code review.
- Leveraged advanced machine learning and statistical techniques to design and evaluate algorithms for improving model performance, quality, and accuracy up to 96.25%.

Data Science Intern MAY 2019 - JUL 2019
OPTIMAL TRANSNATIONAL PVT. LTD. *Noida, India*
- Conducted ETL operations to extract and transform market data from various sources, including LinkedIn, through iMacros and Python to support the LinkedIn campaigns.
- Utilized Python and SQL (Relational Database) to analyze and clean data and worked alongside diverse teams to generate reports, including predictive analytics to forecast sales and enhance profitability for client's e-commerce business.

RESEARCH PAPER & PUBLICATIONS

- Vulnerability Assessment, Risk, and Challenges Associated with Automated Vehicles Based on Artificial Intelligence (Paper Link)
- Customer Segmentation in E-Commerce to Retain and Gain the Customers (Paper Link)
- Dynamically Visualizing Key Performance Indicators for Informed Business Decision-Making (Under Review)

PROJECTS

Visualizing Sales Data Using Tableau and Python JUN 2023 - JUL 2023
University of Windsor *Windsor, ON Canada*
- Worked on a comprehensive research project with team members aimed at enhancing the utilization of Key Performance Indicators (KPIs) using the Business Intelligence tool Tableau.
- Built interactive Tableau dashboards merging sales data and dynamically responsive KPIs, showcasing real-time insights using data analytics and strengthening data-driven decision-making. (Dashboard Link)
- Ensured data reliability by identifying and addressing outliers using Z-score and Interquartile Range.

A Comprehensive Study of Different Deep Neural Network Architectures for Traffic Sign Classification MAY 2023 - JUN 2023
University of Windsor *Windsor, ON Canada*
- Experimented and evaluated multiple neural networks architectures (AlexNet, DenseNet, ResNet50, ResNet101, VGGNet, custom CNN) in a team of three for traffic signs classification, reaching 97.31% accuracy with custom CNN.
- Trained neural network architectures using a large image data set of traffic-sign images and improve the model performance.
- Performed hyperparameter tuning and used early stopping, drop-out and pooling layers, categorical cross-entropy, Adam optimizer for effective multi-class classification.

TECHNICAL INVOLVEMENT

Future Mobility Challenge Hackathon, St. Clair College, Windsor, ON JAN 2023 - FEB 2023
- Attended the Future Mobility Challenge Hackathon, developed a Traffic sign classification solution using various neural network architectures, achieving a model accuracy of 96.70%, second-highest accuracy among participants.

CERTIFICATES & TECHNICAL TRAINING

0. Introduction to Spark SQL and DataFrames at LinkedIn	JUL 2023
1. Introduction to Generative AI at Google	JUN 2023
2. Learning Hadoop at LinkedIn	JUN 2023
3. Tableau Certification: Desktop, Prep, Bridge, and Online at UDEMY	OCT 2019
4. Machine Learning for Data Science: Hands-On Python & R at UDEMY	SEP 2019

5. Completed 50+ certifications in fields of data science, machine learning, and Artificial Intelligence from Coursera, Udemy, Edx, DataCamp etc.

EXTRA-CURRICULAR ACTIVITIES

- Volunteered at Orientation Day organized by University of Windsor in May 2023, performing diverse tasks to support new students, demonstrating strong communication and organizational skills.

- Contributed as a volunteer at a computer science project demo day event organized by school of computer science UofWindsor in April 2023, ensuring smooth operations and contributing to its success.