Chandrajeet Singh

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Results-driven Data Scientist with 7 years of experience specializing in data analytics, machine learning, and statistical modeling to transform complex business challenges into actionable solutions. Skilled at building predictive models and implementing cutting-edge algorithms to uncover meaningful insights from large-scale datasets. Proven track record of delivering high-impact data solutions across JD Finance, CPSS team, JD India Business and Digital Marketing. Proficient in Python and advanced analytics tools. Demonstrates exceptional ability to translate complex data findings for both technical and non-technical stakeholders, ensuring strong alignment with business objectives and driving strategic decision-making.

PROFESSIONAL EXPERIENCE

Lead Data Scientist **Oct 2021 - Present**
John Deere *Pune, India*

- **Digital Marketing and Media Ad Spend Optimization** – GMCI team *Ongoing*
  - Developed a self-service Power BI dashboard to track Customer Journey on DEERE.COM by analyzing 4B+ rows data
  - Created ETL pipeline integrating competitor Media ad spend data and UCC sales data
  - Developed data transformation logic to standardize and merge diverse data sources: brands, product categories, ad types, TV/radio metrics, impressions, geography and media spend etc.
  - Create predictive models to optimize $60M marketing budget allocation across channels
  - Implement what-if analysis framework for spend scenarios and ROI prediction
  - TECH – Python, EDL, Databricks, ETL, Statistics, Power Bi, Geospatial Analysis
- **Tractor Registration and Market Intelligence** – John Deere India Business *Mar 2023 – Oct 2023*
  - Created Power BI dashboard for CI, Market Analysis, Sales Pitch and Dealership Prospectus (150+ users, 1500+ monthly views), for Area Managers, Territory Managers, Zonal Managers, Leaderships and Country Manager
  - Reduction from 28 dashboards to 1 dashboard using Row-Level-Security data layer
  - Developed ETL pipeline for 5M+ rows dataset with automated quality triggers and prevent incorrect data ingestion
  - Provide the list of Potential Villages and Engage Villages to dealer by clustering the villages dynamically using Tractor Registration data and RMSI macro data
  - Impact: 36.7% market share (8.6% gain); 3,164 tractor sales in FY'24; $30M business contribution
  - TECH – Power Bi, Data Visualization, SQL Server, Databricks, K-Means, Clustering, Statistics
- **Research and Survey Data Analysis** – GMCI team *Nov 2023 – Jun 2024*
  - Performed Topic modelling, Clustering, LDA, sentiment analysis etc. on data
  - Collaborated with research team to develop GenAI solutions for analyzing primary research datasets
  - Using LangChain built Retrieval-Augmented Generation (RAG) pipeline and chain-of-thought prompting for summarizing and comparing user survey responses
  - Created DEEREAI Companion for Structured and Unstructured data
  - Impact: FTE Reduction; Answer business questions like “What problems are faced by our combine users in 2023 vs 2024?”
  - TECH – NLP, Python, DeereAI, LLM, Text Analysis
- **Smart Search Engine Optimization** – CPSS team *Nov 2022 – Feb 2023*
  - Enhanced CCMS solution diagnostic search engine using NLP, context-based sentence transformers and vector similarity
  - Developed REST API endpoints enabling seamless integration with multiple enterprise applications
  - Containerized the application using Docker for consistent deployment and scalability on Linux server
  - Impact: Improved search relevance from 10% to 90%; Better customer experience; 50% reduction in machine diagnosis time
  - TECH – Sentence Transformers, Huggingface, Vector Database, NLP, Topic Modelling, Python
- **JDF Wholesale Auto decisioning tool** – JDF India *Jul 2022 – Oct 2022*
  - Developed Credit Analysis tool for dealership annual review
  - 20% of the credit decisions are auto approved
  - 2 FTE reduction (Avoidance)
  - 58% efficiency improvement because of the automated solution
  - TECH – PHP, JavaScript, OKTA, Linux, Apache, HTML, CSS, Docker

Physics Simulation Engineer **Jul 2018 – Sep 2021**
John Deere *Pune, India*

- **Autonomous Suspension Control using Reinforcement Learning**
  - Designed and implemented deep reinforcement learning solution for optimizing vehicle suspension parameters by looking at the road conditions ahead
  - Created physics-based simulation environment using PyChrono for realistic vehicle dynamics
  - Implemented Deep Deterministic Policy Gradient (DDPG) algorithm using TensorFlow
  - Impact: Demonstrated potential for 60% improvement in ride comfort metric
  - TECH – Python, Reinforcement Learning, TensorFlow

ACHIEVEMENTS

Employee of the Year, John Deere India *(1 in 1500 employees)* **Mar 2024**
- Awarded for significant business accomplishments and 8% market share increase. Awarded by Country Manager

EDUCATION

Indian Institute of Technology Kharagpur (IIT-KGP) *Kharagpur, India* | **Jun 2016 – May 2018**
Master of Technology (M. Tech) in Mechanical Systems Design
- **GPA**: 7.05/10.0
- Internship at Mechanical Department: Designed and developed a 3D Printer using open-source codes

JSS Academy of Technical Education *Noida, India* | **Jun 2012 – May 2016**
Bachelor of Technology (B. Tech) in Mechanical Engineering
- **GPA**: 70%
- **GATE-2016**: Secured an All-India Rank of 694, placing in the top 99.7 percentile

TECHNICAL SKILLS

Languages: Python, SQL, JavaScript, HTML, CSS
Technologies: Streamlit, Flask, OKTA, SSO, Spark, MLOps
Developer Tools: Git, Docker, VS Code, AWS, Airflow, Apache Sever, CI/CD
AI Skills: LLMs, HuggingFace, TensorFlow, PyTorch, OpenAI, LangChain, NLP, Linear Regression, Logistic Regression, Ensemble Models, Decision Tree, Random Forest, XGBOOST

CERTIFICATIONS

AWS Cloud Technical Essentials **07/2023**
- Amazon Relational Database Service (Amazon RDS), Amazon DynamoDB, Amazon S3, Amazon EC2, AWS Lambda, Amazon ECS and Access Management (IAM)

Analytics Development Program - John Deere **09/2021 - 05/2023**
- Working with 3 business functions 8 months each, gives a unique platform to understand various aspects of the business

Machine Learning and Deep Learning Specialization **08/2020 - 11/2022**
- Neural Networks and Deep Learning, Sequence Models (NLP), Convolutional Neural Networks (CNN), Hyperparameter tuning, Regularization and Optimization