Deepak Chaurasiya

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Executive Summary

- **Experience**: **3+ years of experience** developing and deploying ML models across various industries for business impact
- **Expertise**: Proficient in Python, TensorFlow, PyTorch, SQL, Spark, and deploying models using AWS, K8s, and TensorRT
- **Mission**: Passionate about delivering cutting-edge solutions in result-driven environments with a strong focus on innovation

Work Experience

- **Dedrone Holdings Inc., Virginia (Machine Learning Engineer Intern)**: (Jun 2024 - Aug 2024)
  - Developed a variational model for canceling noisy interference in the received signal recovering $\geq$ **80%** of the source signal
  - Automated interference cancellation using **Reinforcement Learning**; Saving **$20M+** in specialized hardware & time-value
  - Optimized and deployed the model on an Nvidia Jetson using **TensorRT**; Achieved **92% bit cancellation** on OFDM signals
- **Graduate Assistant, Machine Learning Operations**: (Feb 2024 - May 2024)
  - Rolled out classification model on edge devices using K8s; Improved **response time by 45%** and **resource usage by 20%**
- **AI Garage - Mastercard, Gurugram (Data Scientist I/II)**: (Aug 2020 - Aug 2023)
  - Developed a **multi-task model** detecting disputed transactions and first-party fraud, **mitigating $900M+** in annual losses
  - Scaled a semi-supervised model on Spark, scoring transactions with **70% recall**, and **45% precision** in **top 10%** of scores
  - Built a **time series forecasting** model predicting 60-day liquidity at 15-minute intervals, achieving **less than 5% MAPE**
  - Utilized **LSTM and VAR** ensemble to forecast upper and lower liquidity bound; Saving banks **$60M+ annually** in treasury
  - Created an **interpretable fraud classifier** using medical insurance claims data with less than **10% error**, verified via SMEs
  - Designed a supervised **dynamic meta learner** to adaptively aggregate multiple behavioral encodings for fraud classification
- **Anheuser-Busch InBev, Bangalore (Summer Intern)**: (May 2019 - Jul 2019)
  - Devised a cash application strategy reducing unapplied treasury to 0% and increasing efficiency in cash posting by **1.76 FTEs**
  - Implemented a proof of concept for the proposed model on macro VBA, enabling automatic cash posting and clearing on ERP

Education

- **Tandon School of Engineering, New York University** — New York, USA
  Master of Science - Computer Science — *Aug 2023 - May 2025 (expected)*
- **Indian Institute of Technology Delhi** — New Delhi, India
  Bachelor of Technology - Mathematics and Computing — *Jul 2016 - May 2020*

Technical Skills

- **Languages & Tools**: Python, C++, Linux, SQL, Spark, Hadoop, Django, Git, AWS, Kubernetes, Docker, TensorRT, ONNX
- **Libraries**: Pytorch, Lightning, TensorFlow, Keras, Transformers, SpaCy, OpenCV, OpenAI Gym, Ray RLlib, Optuna, DGL
- **Skills**: Deep Learning, Computer Vision, Statistics, Distributed Systems, Deployment, Data Science, Graph, Market Research

Projects

- **CampusConnect - University Club Communication Hub**: (Prof. Raz Saremi — Jan 2024 - May 2024)
  - Created a communication platform using **Django, React**, and **SQLite** to streamline club updates and student engagement
- **Sovereign Default Inference and Prediction**: (Prof. John Adams — Feb 2024 - May 2024)
  - Built an **explainable ML model** predicting sovereign default with **85% accuracy**, aiding credit risk and market analysis
- **NLP-based Language translation of any YT video**: (Prof. Pantelis Monogioudis — Nov 2023 - Dec 2023)
  - Deployed a tool for audio extraction, translation, and audio stitching for YT videos; **Reduced processing time by over 4X**

Publications

- **Study of Topology Bias in GNN-based Knowledge Graphs Algorithms**: *IEEE International Conference on Data Mining Workshops, 2023*
- **RePS**: Relation, Position and Structure aware Entity Alignment. *Companion Proceedings of the Web Conference, 2022*
- **Entity Alignment For Knowledge Graphs**: Progress, Challenges, and Empirical Studies. *arXiv preprint, 2022*
- **Intent2Vec**: Representation learning of cardholder and merchant intent from temporal interaction sequences for Fraud detection. *In The IJCAI-21 Workshop on Applied Semantics Extraction and Analytics, 2021*
- **MeDML**: Med-Dynamic Meta Learning - A multi-layered representation to identify provider fraud in healthcare. *In The International FLAIRS Conference Proceedings, 2021*
- **Patents**: **7** patents filed or under process across India and U.S. offices as a part of new product ideas and innovation efforts

Scholastic Achievements

- **Mastercard Pickup Excellence Award (2021)**: Awarded for displaying exemplary innovation and impact at the firm
- **KVPY Fellowship**: Awarded for academic performance, by the Govt. of India, to the **top 1% of 60,000+** candidates