

KARTIK CHOUDHARY

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SKILLS

Programming Languages: Python, C++, SQL, Java, Bash

Big Data: Spark, Hadoop, Hive, Azure, Airflow, Tableau

Data Science: PyTorch, TensorFlow, PySpark, AWS

Tools: SciPy, Matplotlib, Scikit-learn, Jupyter, Git, Linux

EDUCATION

University of Massachusetts Amherst, Amherst, MA

MS in Computer Science

Expected May 2024

GPA: 4.00/4

Relevant coursework: Reinforcement Learning, Advanced Natural Language Processing, Distributed & Operating Systems

Indian Institute of Technology Delhi, New Delhi, India

B.Tech in Electrical Engineering

Jun 2019

GPA: 7.33/10

Relevant coursework: Intro. to Machine Learning, Data Structures and Algorithms, Probability and Stochastic Processes

PROFESSIONAL EXPERIENCE

Machine Learning Engineer

Jul 2021 - Jul 2022

Reliance Jio Infocomm Ltd., Navi Mumbai, India

- Attained **15%** improvement in network throughput predictions by implementing an explainable **Mixture of Experts** model.
- Overhauled the **root cause analysis** pipeline for call drops by computing **SHAP scores** of the input features.
- Introduced a statistical model using **response surface methodology** to suggest network improvement strategies.

Data Scientist

Jul 2019 - Jun 2021

Reliance Jio Infocomm Ltd., Navi Mumbai, India

- Created **1100+ features** for customer profiling on a **high-performance computing cluster** using **Apache Spark**.
- Developed a **distributed machine learning** model using **TensorFlow** and **Apache Airflow** to run ETL and perform churn prediction on data for **400M+** daily customers.
- Reduced data pre-processing time by **70%** by implementing a **multiprocessing pipeline** for feature extraction.
- Launched **A/B testing** of marketing campaigns on **geographic cohorts** improving confidence levels in predictions.

Intern - New Technologies

Summer 2018

Claym Media and Tech Pvt. Ltd., Gurgaon, India

- Used **Java** to automate the **AI-driven pipeline** for flagging potentially fraudulent transactions in mobile advertising.
- Standardized reports from **20+ sources** using **regex** to enable seamless integration with fraud detection algorithms.

Intern - NLP Research

Summer 2017

Voxomos Systems Pvt. Ltd., Gurgaon, India

- Trained an **LSTM recurrent neural network** based chat-bot with the ability to retain context using **TensorFlow**.
- Scraped and cleaned publicly available tweets to create a corpus of **5M+ tweets** and their replies to train the model.

PROJECTS

Reinforcement learning algorithms for continuous-state MDPs, Academic project

2022

Trained reinforcement learning algorithms with **Python** on continuous-state Markov environments from **OpenAI Gym**.

Transformer from scratch

2022

Python implementation of the **transformer model** from scratch using **PyTorch** and **spaCy** for **neural machine translation**.

GAN for generating Rock Paper Scissors images

2021

Implemented and trained a GAN in **TensorFlow** to generate RGB images for hands in rock, paper, and scissors positions.

Adversarial examples for computer vision tasks

2021

Demonstrating adversarial attacks on an **image classification CNN** with the Fast Gradient Sign Method using **TensorFlow**.

Occupancy learning in commercial spaces, B.Tech Thesis, IIT Delhi

2019

Predicting room occupancy in the institute's lecture halls to automate the HVAC system using a **Hidden Markov Model**.

LEADERSHIP AND AWARDS

- Highest annual performance feedback rating (A*) for 3 years in a row, Reliance Jio
- Secretary, Electrical Engineering Society, IIT Delhi
- JEE Advanced - National Rank 321 among 1.5 million total applicants

2020-22

2017-18

2015