

Deepak Udayakumar

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EDUCATION

Northeastern University , Boston, MA	GPA: 4.0/4.0	Jan 2023 - Present
Khoury College of Computer Sciences		Expected Graduation: Dec. 2024
<i>Master of Science in Data Science</i>		
Related Courses: Supervised Machine Learning, Unsupervised Machine Learning, Data Processing and Management, Algorithms		
Nitte Meenakshi Institute of Technology , Bangalore, India	CGPA: 8.92/10	Aug 2017 - July 2021
<i>Bachelor of Engineering in Electronics and Communication Engineering</i>		
Related Courses: Machine Learning for Pattern Recognition, Python Programming, Data Structures, Image Processing		

TECHNICAL SKILLS

Programming Languages:	Python, R, SQL, Java, MATLAB
Toolkits/Frameworks:	TensorFlow, PyTorch, Scikit-learn, Apache Airflow, NLTK, OpenCV, Google Cloud Platform
Data Manipulation and Visualization:	Numpy, Pandas, Matplotlib, Seaborn, Plotly, Tidyverse, Ggplot

PROFESSIONAL EXPERIENCE

LTIMindtree , Bangalore, India	Aug 2021 - Dec 2022
<i>Data Engineer</i>	
<ul style="list-style-type: none">Configured data pipelines in Python and Big Query, applying Apache Airflow for building, debugging, scheduling, and monitoring jobs with DAGs.Demonstrated expertise in employing and leveraging various Google Cloud Platform Big Data products, such as Big Query, Cloud Dataproc, Google Cloud Storage, and Composer, to efficiently track and manage workflows on Airflow in cloud.Took initiative in designing and implementing data pipelines to facilitate efficient flow of data from diverse sources into Big Query. By ensuring seamless data processing and analysis, played a pivotal role in optimizing data pipeline infrastructure for enhanced productivity and insights generation.Collaboratively assessed client's data requirements, planned data cleaning and modification processes, and performed comprehensive development of Big Query Views through meticulous data cleaning, strategic aggregations, and necessary transformations, resulting in high data quality.	

ACADEMIC PROJECTS

US Air Pollution Time Series Analysis (LSTM, SATIMAX, Naive, Neural Networks, Time Series)	Mar 2023 - May 2023
Northeastern University , Boston, MA	
<ul style="list-style-type: none">Employed time-series analysis and advanced forecasting techniques to accurately anticipate air pollutant trends in various cities across California, leveraging comprehensive US Air pollution dataset.Key aspects included data preprocessing, exploratory data analysis, time decomposition, utilization of multiple time-series models (average, naive, SARIMAX, LSTM), and thorough model evaluation and comparison.	
Facial Emotion Recognition using Deep Learning and Residual Networks (ResNet, CNN, TensorFlow)	Mar 2023 - Apr 2023
Northeastern University , Boston, MA	
<ul style="list-style-type: none">Developed a deep learning model using Convolutional Neural Networks and Residual Networks to predict facial keypoints, essential for emotion recognition applications. Preprocessed and visualized the image data, performed image augmentation, trained the model using TensorFlow and Keras. Evaluated the model's performance for accurate facial keypoint detection.This project demonstrates proficiency in deep learning, computer vision, and data analysis, showcasing the ability to build AI systems for emotion detection and customer satisfaction analysis.	
Deep Learning approach to detect distracted drivers (CNN, Keras, Data Augmentation, Numpy)	Mar 2021 - May 2021
Nitte Meenakshi Institute of Technology , Bangalore, India	
<ul style="list-style-type: none">Developed and evaluated multiple variations of a CNN deep learning model to detect distracted drivers, achieving accurate results and high efficiency through optimization and transfer learning techniques. Successfully implemented a final model that accurately identified the driver's activity with high accuracy using the optimized CNN model and transfer learning approach.	
Graph Neural Network for Drug Repurposing (Graph Neural Network, GDRnet, SGD)	Aug 2020 - Dec 2020
Nitte Meenakshi Institute of Technology , Bangalore, India	
<ul style="list-style-type: none">The model is used to predict existing drugs for a disease by analyzing large volume of data on what drugs were used to treat diseases with similar symptoms.Demonstrated proactive initiative in surmising most suitable candidate drug for disease treatment by applying rigorous analysis and ranking techniques. Spearheaded evaluation process, assessing effectiveness of potential drugs against target disease and providing valuable insights for informed decision-making.	