Vishnu Vansh Thakral

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WORK EXPERIENCE

Business Intelligence Engineer II (Data Science) - Amazon, Seattle   Apr 2022 - Present
- Instructor at Amazon's Machine Learning University for NLP and Responsible AI courses, delivered 6 classes to 150+ employees
- Developed yard capacity prediction model preventing $1.3M worth package delays and ensuring customer promise fulfillment
- Designed XGBoost predictive model for sort center labor planning, enhancing accuracy by 3% to generate savings of **$15Million/year**
- Engineered ML ensemble model for Amazon Logistics, reducing halts in delivery network and cutting down ship-to-delivery time by 11%
- Analyzed and addressed slow routes for Ship with Amazon, cutting transit time by half day and reducing transit cost by 16%
- Architected Tableau reporting infrastructure supporting **20k users** for real-time analytics during prime with 1.5x of average daily usage

Business Intelligence Engineer - Amazon, Seattle   Jul 2021 - Apr 2022
- Developed reporting suite with actionable insights on missing connectivity and coverage of Amazon delivery network in USA
- Built Tableau dashboards for seamless user monitoring, ensuring optimal server performance and improving load time by 73%
- Led a project with 2 interns to analyze and recommend TPH (throughput/hour) improvement of 15% for Heavy Bulky products

Data Science Bootcamp Instructor - NYU Center for Data Science, New York   Jun 2020- May 2021
- Initiated, designed, and delivered python-based Data Science Bootcamp to 2000+ NYU students with hands-on practical approach
- Provided in-depth exposure to SQL, data analysis, feature engineering, visualization (Matplotlib/Tableau), machine learning modeling
- Earned a **strong overall feedback of 4.87/5** and appreciation for the initiative and efforts by the dean of career services (NYU)

Research Machine Learning Engineer, NYU Centre for Data Science, New York [link]   Sep 2019 - Jun 2020
- Created Fairprep, a Python based library to design and evaluate machine learning models for transparency and fairness
- Implemented fairness enhancing interventions in the pre and post processing stages of machine learning predictions
- Benchmarked the intervention result for models to 72% fairness on biased datasets such as Ricci, German Credit and COMPAS

Data Scientist, Vodafone India Services Pvt. Ltd, Pune, India   Jul 2018 - Jul 2019
- Initiated proactive sentiment analysis on tweets and logs, reducing customer churn by 65%
- Automated Data Science pipelines to execute daily pulls on customer log database, saving 130 man-hours/month of efforts
- Reduced data transfer time between servers down to 50% by deploying a Teradata based parallel transporter process

TECHNICAL SKILLS and CERTIFICATIONS

Languages	:	Python, SQL, Javascript
Libraries and Framework	:	Tensorflow, PyTorch, Keras, PySpark, Pandas, Matplotlib, Node.js, D3.js, React.js, Hive, Kafka
Cloud Platforms	:	AWS (Lambda, Sagemaker, S3, Redshift, Athena, EC2, CloudWatch, API Gateway, Kinesis streams)
Tools	:	Tableau, QuickSight, Git, Jupyter Notebooks, REST APIs, Looker, Airflow
Certifications	:	IBM Data Science Specialization, Machine Learning (Stanford - Coursera)

PUBLICATIONS

- First author of paper **Improved Face Detection Using YCbCr and Adaboost**[link] presented in conference 'Computational Intelligence in Data Mining', published in 'Advances in Intelligent Systems and Computing', 2019 Springer vol 990 pp. 689-699.

EDUCATION

New York University, New York City, NY, USA   Sep 2019 - May 2021
Master of Science in Computer Science   GPA: 3.90/4
Coursework: Data Structures, Algorithms, Machine Learning, Deep Learning, Responsible Data Science, Computer Vision, Cloud, NLP, Visualization

Birla Institute of Technology, Mesra, Ranchi, India   Aug 2014 - May 2018
Bachelor of Technology in Electronics and Communication   GPA: 3.94/4

TECHNICAL PROJECTS

SecuroDrive (Driver Drowsiness Detector) [link]   Sep 2020 - Dec 2020
- Co-developed end-to-end scalable real time application on AWS cloud to monitor driver drowsiness and alert using audio notifications
- Crafted ML model to track driver attention span in real time and suggest nearby rest areas with Maps API using location service

Lip Reading based Communication Assistant [link]   Aug 2020 - Dec 2020
- Engineered a deep learning model to interpret lip movement and communicate in text to people with hearing problems
- Applied 1D CNN for temporal feature extraction using BiLSTM model for sequential prediction
- Benchmarked 45% accuracy in detecting user's lip movement using 34GB video data trained in 23 hrs. on distributed GPU clusters

Stay Recommender[link]   Oct 2019 - Dec 2019
- Created a stay recommender portal using Airbnb, NYC public and restaurant data
- Fabricated important filter options such as neighborhood safety, nearby restaurants presently not available on online portals
- Predicted ratings and increased visibility of new listings (15k out of 50k) using spark ML K-Means algorithm with 83% accuracy

LEADERSHIP and AWARDS

- Served as an AI Machine Learning Hackathon Jury at New York University to select the best project out of 70 entries (Nov 2023)
- Received Machine Learning Champion award at Amazon for the best accuracy in substitute product prediction (Aug 2023)
- Achieved rating of exceeds amazon bar for proactive approach and high customer obsession (Mar 2023)
- Finished 12th/180 in East Coast Regional Hackathon conducted by Citadel on Terminal, a Machine Learning based strategy game (2021)
- Perception (Computer Vision) team lead at NYU Self-Drive [link], designed a competition for GAN based car game simulation (2020-'21)
- Recipient of **Bertelsmann Technology Scholarship** in the field of Artificial Intelligence (Nov 2019)