ABHINAV ANKUR

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EDUCATION

University of Illinois, Urbana-Champaign, IL, USA August 2021 - May 2023
Master of Science, Statistics

- *Concentration* - Analytics
- Research Assistant - Team Lead, Amazon Simbot Challenge (Dr. Julia Hockenmaier), Spring 2022
- Research Assistant - DAIS Laboratory (Dr. ChengXiang Zhai), Fall 2021
- Member, American Statistical Institute, 2021
- Graduate Datathon Lead, Illini Statistics Club, 2021

Lovely Professional University, Phagwara, India August 2012 - May 2016
Bachelor of Technology, Computer Science and Engineering **8.46/10.0**

- *Concentration* – Artificial Intelligence
- *Minor* – Electronics & Communication Engineering
- Microsoft Student Associate, MSA 2014/285

EXPERIENCE

Verizon, Hyderabad, India
Specialist – Data Science August 2019 - July 2021
A member of Verizon's AI Center, creating technical capabilities, revamping processes, consulting, and imbibing novelties in BAU.
Computer Vision:

- Ideated and implemented **vzaug**, a custom, reusable, easy-to-use image augmentations library for image classification and object detection tasks.
- Developed CV models to enable touchless device recognition at retail stores, enabling Verizon to do business with social distancing. This is deployed with the MyVerizon Mobile application and works at the edge using Tensorflow Lite.
- Implemented a pose detection and human body segmentation POC using CMU's OpenPose to find customers' propensity to upgrade a telecom device by her *body language*.

Processes:

- Extracted relevant parts from KDD, CRISP-DM, and SEMMA, then suggested an MDLC to be implemented across Verizon globally.
- Devised hackathon problems that helped the resources to solve actual business problems.
- Formulated ML code check-ins while checking it against PEP8 standards.

eXplainable Artificial Intelligence (XAI):

- Incorporated MLI (LIME, SHAP, CxPlain, etc.) on ML models like Churn and Chat Categorization model to perform model validation and transcend from prediction to prescription.
- Implemented methods suggested by published papers using a plethora of MLI frameworks to perform runtime and qualitative analysis for various statistical modeling algorithms and data types.
- Led efforts to incorporate explainability (XAI) at scale in Verizon's ML model development pipeline by putting decoupled "explainer" artifacts and concept drift calculators in real-time data streaming platforms, developing notebooks, and exposing interpretability as a service.

Analyst – Data Science November 2017 - July 2019
Propelled an anomaly detection CoE; delivered both on batch and real-time streaming analytics, latter leading to data engineering efforts.

- *Anomaly Detection:* As a part of CoE, created generic and reusable fuzzy logic-based anomaly detection accelerators; ideated and implemented use cases like upgrade anomalies, fraud with KPIs in perspective; and operationalized real-time anomaly detection on temporal call patterns using IBM Infosphere Streams.
- *Automatic improvement of a statistical textual model using Feature Investigator:* Worked in collaboration to improve the training data of textual classification models using features derived from MLI, then correcting training data labels and auto-labeling new data. Clubbed with on-the-fly model training and champion-challenger model

deployment, this improves the application's prediction without any human intervention and downtime. Applied for a US patent through Verizon.

- *Engineering Solutions with Integrated ML (ESWIM):* Worked on test cases generation from user stories through approaches like rule-based text engines, NLG using Markov Models and LSTMs
- *Calls from Digital Savvy customers:* Worked towards the analysis and reduction of call-in-rate from digital (mobile, web-driven self-serve channels) savvy customers.
- *Fraud:* Worked in collaboration towards victim profiling, subscription fraud reduction, and device fraud reduction.
- Implemented call prediction classification model using call centers applications' clickstream data

Software Engineer July 2016 – October 2017

Implemented real-time data streaming applications while improving telecommunications domain knowledge

- Wrote IBM Streams jobs to ingest and transform data in real-time giving the bedrock for data analysis; deployed PMML models at scale in a distributed environment; implemented an RPA solution to recommend knowledge base articles to customer care representatives.
- *Search Clustering and Classification:* Implemented an SVM-based real-time scoring model which classifies searches done by customers on the Verizon ordering portal.
- *Session categorization toolkit:* Implemented, in collaboration with IBM, a real-time supervised flow demarcation toolkit which was used to categorize customers' sessions based on their activity and segment customers into clusters generating complex sequential insights.
- *Cross Channel Journey Dashboard:* Implemented a dashboard that showed customers' individual and aggregated cross-channel page and link visits.

HONORS/ACCOMPLISHMENTS

- Machine Learning Interpretability and Anomaly Detection demo to Ronan Dunne, EVP & CEO, VCG, 2019
- Feature Investigator, MLI demo to Shankar Arumugavelu, SVP & Global CIO, Verizon, 2018
- Machine Learning Interpretability demo to Nancy B. Clark, SVP for Consumer Customer Service, 2018
- Won Verizon's campus hires Hackathon, 2016, which was a competition among ~250 freshers chosen from premier institutes across India.
- Runners up, Verizon CloudDayVz (2018); Verizon DockerOn (2019)
- Won four Verizon Spotlight Awards, which are recognitions for above and beyond contribution in the field of work
- Advanced Blockchain Programming Fellow, BlockFellows

PUBLICATIONS

- Suggestive GAN for supporting Dysgraphic drawing skills - IAES International Journal of Artificial Intelligence (IJ-AI) Vol. X, No. 1, March 20xx, pp. xx~xx ISSN: 2252-8938 Smita Pallavi, Akash Kumar, Abhinav Ankur

TRAININGS & CERTIFICATIONS

- IBM Infosphere Streams, Tableau Desktop, Data Science Core, Python, R, MongoDB, PostgreSQL, Redis Labs RU101 Certificate, ReactJS, Docker
- AWS Solutions Architect, Udacity ML Nanodegree, DataRobot Fundamentals, PadhAI Deep Learning, Coursera ML Foundations

ASSOCIATIONS & EXTRACURRICULAR ACTIVITIES

- City Ambassador, AI6 Saturdays, 2017 - 2018 - Lead the Hyderabad (India) AI6 chapter that was an organization responsible for democratizing novel statistical papers and, if possible, implementing them. The target audience was data science practitioners at firms, enthusiasts, and in basic classes, college students.
- Playing soccer
- Motor-biking to destinations