Rajat Kumar

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EDUCATION

University of Illinois at Urbana Champaign   **Illinois, US**
Master's in Information management   **01/2021 – Present** (**12/2022**)

Jamia Millia Islamia   **Delhi , India**
Bachelor of Technology in Electrical Engineering (Minor Computer Science), GPA (3.52)   **08/2010 – 06/201**

WORK EXPERIENCE

Omdena – Collaborative Platform to build AI solutions   **Champaign, IL**
Machine Learning Researcher   **10/2021 – Present**

- Devised an AI system through Machine Learning to detect real-time accidents that can improve road safety in South Asian countries by 25%.
- Examined road accidents data from over 100 public databases, newspapers, and web pages to train the machine learning model through python Beautiful Soap and request packages making the model 10% efficient.
- Collaborated with over 50 members in designing and developing Python-based web applications to predict the probability of an accident from video and actions of the driver.

UIUC – Department of Life Sciences   **Champaign, IL**
Researcher (Website)   **03/2021 – 08/2021**

- Facilitated the data collection of Heart Rate, Motion, and Sensor data using Little Beats physical device (programmed microcontroller) on an infant (under 3-year-old), resulting a 15% efficient model.
- Increased the efficiency of the data collection process by 25% after remodelling the Android App, thus making the app act as a remote control for the Little Beats Device.
- Improved the error identifying process by 50% through Git versioning.

Tata Consultancy Services (TCS)   **Delhi, India**
Senior Software Developer /Technical Lead   **10/2018 – 08/2020**

- Reduced customers' time by 80% by developing software solution (link, twitter) using Java 6, Hibernate 3, Spring MVC 4, HTML 5, and CSS; converting file-based tracking system to electronic-based.
- Oversaw the team of 6 developers in delivering fast-paced Rest APIs to store millions of flight baggage data in Oracle Database accumulated from the app (link) across 30 international airports.
- Engaged with Teams of PWC and Wipro for the passenger flight data storage mobile app (Android , IOS) delivering the app within the strict 30-day deadlines.
- Award by the Department of Revenue – Government of India for the swift delivery of the Mobile App.

Tata Consultancy Services (TCS)   **Delhi, India**
Software Developer   **04/2015 – 09/2018**

- Increased the Customer Satisfaction Index (CSI) by 20% by providing excellent customer service through Conference Calls and documentation regarding the business logic and deployment process on the production environment.
- Reduced the customer query request time by 90% through complex SQL queries and Procedures (in Oracle and Microsoft SQL) by displaying the taxation figures output in detail-oriented Crystal Reports.

Data Analysis and Machine Learning Projects

Soccer World Cup 2022 Analysis (GitHub**)**   **04/2021- 05/2021**

- Programmed a solution using Object Oriented (OOP) technique in Python to provide statistical analysis using Poisson Distribution on Soccer World Cup 2022.
- Utilize and pre-processed data of over 400 countries from the official Soccer (FIFA) site using Numpy and Pandas, thus providing 30% better statistical analysis.
- Awarded the most enthusiastic presenter through ensemble voting of 30 students for presenting the project via zoom meeting.

Prediction of Spam Messages using Classifier   **03/2021- 04/2021**

- Train a Naïve Bayes, Logistic Regression and Decision Trees Algorithms on the SMS spam collection dataset containing 500 features using Python Scikit-Learn Package.
- Designed a utility to compute the F1 score (accuracy) of the classifier model (Naive Bayes, Logistic Regression & Decision Tree) to determine the most efficient model.
- Implement the Ensemble Voting (Roosting) Technique to generate a model that increases the prediction result by 5%.

Tropical Storm Analysis   **02/2021- 03/2021**

- Develop a solution that processes Hurricane Storm Data from multiple websites using Python Requests, JSON, and CSV packages to identify major hurricane hit spots latitude and longitude.
- Visualize a utility using Python GeographicLib Package to identify the closest hit hurricane spot based on the input values.

TECHNICAL SKILLS

Languages: Java, Python, HTML / CSS, JavaScript, SQL, JSON, R, XML
Packages: Numpy, Pandas, Scikit- Learn, Networkx, Matplotlib, GeographicLib
Machine Learning: Regression, Clustering, Decision Tree, K-means, Naïve Bayes, Hypothesis Testing
Relational Databases: Microsoft SQL Server (2008 & beyond), Oracle 11g/10c, MySQL (PHP admin), PostgreSQL (pgAdmin)
NoSQL Databases: Neo4j (Neo4j Desktop), Mongo DB (Compass), Elasticsearch with Kibana (From AWS and Elastic Cloud)
Cloud Server: AWS (EC2 Postgre SQL, RDS, VCS)
Development Software: Eclipse, Pycharm / Jupyter, RStudio, Postman, PL/SQL Developer, Crystal Reports, VS Code.
Versioning Tools: Subversion (SVN), Git
Frameworks/TagLibs: Spring MVC, Hibernate, Angular JS, JSTL, AJAX, Rest API's