

Kartik Nautiyal

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Education

Worcester Polytechnic Institute

MASTER OF SCIENCE IN DATA SCIENCE (4/4)

- Database Management Systems, Statistical Methods for Data Science, Machine Learning, Information Retrieval, Data Visualization

Worcester, MA

Aug '21 - May '23

Mumbai University

BACHELOR OF ENGINEERING IN MECHANICAL ENGINEERING (8.58/10)

Mumbai, India

July '15 - Aug '19

Skills

- Programming and Database: Python (Pandas, NumPy, Sci-Kit learn, FastAPI), SQL (Oracle DB, MySQL, PostgreSQL), JavaScript, R, MATLAB
- Data Visualization: Power BI, Python (Matplotlib, Seaborn), JavaScript (D3.JS)
- Tools: Git, Visual Studio Code, Microsoft Office (Excel, Word, Powerpoint), SolidWorks, Ansys Workbench
- Experience: Exploratory Data Analysis, Data Mining, Classification, Regression, Clustering, Decision Trees, Text Analysis

Work Experience

cKinetics Consulting Services Pvt. Ltd.

JUNIOR DATA ANALYST

- Created ad-hoc reports using Power BI and Excel to find that about 45% analysed companies were non-compliant with their emission numbers in the textile industry
- Improved the market and insight platform of the firm by working on search engine optimisation and key word analysis using vector similarity in Python to increase MoM reach by 55%
- Collected, compiled, analyzed and visualized data by primary and secondary research to identify challenges in using rechargeable battery operated lights by street vendors in India

New Delhi, India

Aug'20 - Sept '20

Data Management and Analysis Vertical, NITI Aayog, Govt. of India

DATA SCIENCE INTERN

- Researched and found a method of measuring relative GDP contribution (with a correlation of 70%) by using night-light raster data from Google Earth Engine and developed a web-tool using JavaScript to visualize it on map
- Implemented Support Vector Machine algorithm to identify different terrains from satellite images to estimate agricultural productivity with an accuracy of about 81%
- Identified key data parameters and recommended data visualizations for the National Data Analytics Platform
- Investigated key challenges in agricultural data usage by meeting various stakeholders in the agricultural sector

New Delhi, India

Oct '19 - April '20

Project Summary

Economic Hotspot Explorer

RESEARCH PROJECT AT NITI AAYOG (JAVASCRIPT)

- Researched and found a proxy indicator for district level GDP in night-time lights which showed a 70% correlation
- Used night-time lights data to segregate cities in India into areas of low, medium and high economic activity
- Developed an interactive web-tool using JavaScript to visualise and create interactive digital maps using GIS data on Google Earth Engine

[Link](#)

Covid Risk Tracker

ACADEMIC PROJECT AT WPI (PYTHON: PANDAS, SCIKIT)

- Studied the link of 27 Socio-Economic indicators and Covid-19 risk by analysing the first 6 months of Covid data (most important time to respond to pandemics according to epidemiologists) in all cities in the state of Massachusetts
- Categorized cities by risk using K-means clustering algorithm on Covid data and using the elbow method to select optimal value of K
- Trained multiple supervised learning algorithms to predict risk categories in communities using socio-economic information as predictors and achieved an accuracy of 69% for 4 risk categories and 90% in case of 2 risk categories

[Link](#)

Soccer Players Analysis

ACADEMIC PROJECT AT WPI (PYTHON: PANDAS, SCIKIT)

- Analysed and performed exploratory data analysis on the Premier League season 20/21 data and further devised a popularity score for players to allow sport companies to target brand deals with the most popular players
- Trained multiple supervised machine learning models with an accuracy of up to 82% to estimate the number of goals a player may score in the Premier League based on player age, position and number of minutes played by the player in a season

[Link](#)

Visualizing Consensus

ACADEMIC PROJECT AT WPI (JAVASCRIPT: D3.JS)

- Proposed a new method for consensus ranking visualization used for decision making using D3.JS using features like scrollytelling
- Increased understandability in the agreement/disagreement in a consensus with respect to individual rankings and allowed comparison among multiple consensus rankings

[Link](#)

Data Visualization Dashboard

ACADEMIC PROJECT AT WPI (MYSQL, PYTHON: PANDAS, DJANGO)

- Assembled a MySQL database by converting raw Olympics data of 120 years into structured tables using data processing techniques so as to study trends of about 300k athletes in different sports and countries over time
- Worked on a Web-based application in Django to query the MySQL database and visualize the data in the front-end