

Arun Deepak Tirkey

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SUMMARY- Computer Enthusiast, Knowledgeable, performance-driven and detail-oriented Computer Science student who excels at developing and maintaining software, automation scripts and resolving any technical support requests. Possess great technological expertise, well-developed communication skills and most important the ability to work in a team.

EDUCATION- University of Derby, Derby

Jan 2022- March 2023

Master of Science in Information Technology

Coursework: Database Development, IT Project Management, Object Oriented Analysis Design & Implementation, Studying at Masters Level & Research Methods, Web Technologies, Business Analytics. Independent Scholarship

Chandigarh Group of College, India

July 2016 – July 2020

Bachelor of Technology in Information Technology

EXPERIENCE- IVY Professional School, India

Text Mining & Machine Learning Using Python

March 2021 – April 2021

The internship focused on Fake News Detection, involving the analysis of two distinct datasets containing fake and real news. WordClouds were generated for each news category as well as for individual subjects within each dataset. Additionally, both unigram and multigram WordClouds were created, and data underwent a cleaning process to remove noise such as text within brackets, special characters, and numbers. To enhance accuracy, mis-spelled words were rectified using stemming and lemmatization. Prior to model creation, the textual structure was transformed into a numerical format using a counter vectorizer. For the final model, the Adaboost algorithm was selected due to its lower occurrences of False Negatives and Positives, resulting in an impressive accuracy of 94%.

Challenges Encountered:

- Difficulty in estimating the time required to complete the fitting algorithm.
- Issues with the performance of the stemming library.

Resolutions:

- Discovered the tqdm library, which visually indicates completion progress with bars.
- Opted for the krovetzstemmer library, which proved to be effective for this project.

Project link-

https://github.com/arundepak86999/Data_Science_Project/blob/main/ML%20with%20Python/ML%20with%20Python_INTERN/UpdatedMLwithPythonArunDeepakTirkey.pptx

Dashboard on London House sales price Analysis in MS Excel

Nov 2020 - Dec 2020

The internship focused on analyzing the London House Sales Price dataset, containing 8 attributes and 149,109 records. In alignment with business objectives, such as identifying the top 5 district sales and quarterly sales distribution, a pivot table was constructed. A dynamic dashboard was created to present a summary of the dataset's pivot table. This interactive dashboard allows users to modify the displayed graph based on monthly, quarterly, or yearly perspectives. Additionally, users can filter the data based on estate type (freehold or leasehold), property type (cottage, flat, detached, semi-detached, or terrace house), and new build status (yes or no). Key insights derived from the analysis include heightened sales during specific quarters of the year, identification of hotspot districts, the popularity of the 'FLAT' segment, and a quantitative analysis of sales quantity.

Project link - https://github.com/arundepak86999/Dashboard/tree/main/Dashboard/London_House_Sales

Certification

Coursera

Aug 2023 – Dec 2023

IBM Data Science Professional Certificate

Validate at- <https://www.coursera.org/account/accomplishments/professional-cert/A9X7P4L47CUR>

IVY Professional School, India

Jan 2020 – Sep 2021

Data Science using Machine Learning, Artificial Intelligence, Deep Learning

Validate at – www.ivyproschoo.com Verification Code: IVY/01/20/3644

SKILLS-

Programming Languages: Python, C, C++, HTML, CSS

Technologies: Data Visualization, Machine Learning, Data Science & Analytics, Statistical Techniques.

Python Libraries: Pandas, Matplotlib, scikit-learn, Plotly, Folium, Seaborn, SciPy.

Database Management: MySQL, Hadoop.

Tools: Tableau, SAS, Jupiter Notebook, MySQL Workbench.

PROJECTS – Coursera-

Launch Price Prediction on SpaceX dataset

Nov 2023 – Dec 2023

Establish the cost for each launch by obtaining data from both the SpaceX website and Wikipedia. Utilize a dashboard to visually represent the success rates of different boosters and the impact of payload on launches. Employed various models, including Decision Tree, SVM, Logistic Regression, and KNN, achieving an accuracy of 87% on the Decision Tree model. Noteworthy insights include continual improvement over the years and the highest success rates observed in specific orbits such as SSO, HEO, GEO, and ES-L1. Prioritizing safety measures involved choosing launch sites away from densely populated areas and ensuring convenient transportation, with these locations mapped using Python Folium.

Master-

Object Oriented project on Student Accommodation System

Sep 2022 – Jan 2023

Project covers booking of rooms, checking available accommodation, register or login student, add/delete options (room, apartment, or accommodation). It was coded entirely in python following an object-oriented concept. It used MVC architectural design. Console-based design with loosely coupled application layer which could be interfaced with modern front-end framework.

<https://github.com/arundepaktirkey/Database-Project/blob/main/studentAccommodationSystem/VideoPresentation.mp4>

DBMS project on Airline Management System

Sep 2022 – Jan 2023

Project covers management of passengers, staff, pilot with required type rating, type of airplane flying, number of stops, reports on pilot's schedule, working hours of pilot, companies' operational country and schedule. Front End of project was solely focused on Microsoft's Windows form. Data collection and manipulation from database was done by SQL query, procedure and trigger. The database used in the project was MySQL workbench and got connected with Visual Studio using MySqlConnection.

<https://github.com/arundepaktirkey/AirlineManagementSystem/blob/master/AirlineManagementSystemReport.docx>

Airline Customer Satisfaction Analysis and Visualization

Mar 2022- Jun 2022

The purpose of the study was to compare two business intelligence platforms for visualization and analysis. On the Airline Customer Satisfaction dataset, two industry-leading visualization tools, Tableau and Power BI, were utilized in this comparison.

Predictions and Simulation of Cube Grasping Through the Integration of Data Science and Robotics.

(Summer Dissertation)

Jun 2022- Sep 2022

The major goal of this study was to accurately grab cubes with robotic arm in simulated environment by utilizing deep learning, robotics, and simulation methodology. The task was attained by taking help of ROS Noetic (Robot Operating System), MoveIt (Motion Planning Framework), Unity (Simulation environment) and ROS-TCP connector. Robotic arm in this project was 2-finger gripper Universal Robots 3. Deep learning techniques were utilized for training to predict the Cube's pose, and Motion Planning techniques were employed to determine the trajectory of the robot.

Steps: Capture RGB Image in Unity -> Predict Cube Pose in ROS using VGG16 CNN -> Transferring MoveIt Motion Plan to Robotic arm in Unity -> Execute Motion Plan.

IVY Professional School, India

Chest X-ray Image Classification.

Jun 2021 Aug 2021

In this project, we must find which x-ray of lungs have pneumonia or not. For this project, I used Convolution Neural Network model with activation function 'relu' and output activation function as 'sigmoid'. As this is binary model, so here 'binary_crossentropy' loss function is used. Main important feature of confusion matrix to be noted here is False Positive (FP). As FP is very dangerous in the medical industry as Model predict True to have Pneumonia but patient doesn't have that disease. So, I keep my focus to reduce FP as much as possible. I have TP= 47, TN=32, FP=3, FN=38 and accuracy of 81%.

https://github.com/arundepaktirkey/Data_Science_Project/tree/main/ML%20with%20Python/Deep%20Learning/Chest%20X-ray%20image%20classification%20-%20Copy/

Classification Model on Credit Card Approval Dataset**Apr 2021 Jun 2021**

This is a Customer Data Analysis project having bank detail, credit score, personal detail etc. Dataset provided with raw information and must do EDA, cleaning, preprocessing. Uses techniques like Recursive Feature Elimination (RFE), Synthetic Minority Over-Sampling Technique (SMOTE) and GridSearchCV. The final model has accuracy of 85% and when filled new data of credit card. It shows Approval status.

https://github.com/arundepaktirkey/Data_Science_Project/tree/main/ML%20with%20Python/Predict%20Credit%20Card%20Status