SNS COLLEGE OF ENGINEERING

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Accredited by NAAC-UGC with 'A' Grade
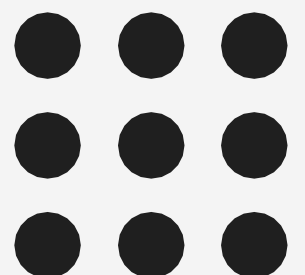**Approved by AICTE, Recognized by UGC & Affiliated to Anna University, Chennai**

Department of Information Technology

Course Name – 23ADT202 Fundamental of Data science and Analytics

II Year / IV Semester

Unit 1 – Introduction to Data science

Presenting and building applications

Introduction

Presenting insights and embedding models into applications are key data science steps.
These stages help translate findings into actionable decisions.
Visualizations, dashboards, and APIs bridge the gap between technical results and business goals
Applications help operationalize data science insights for real-world use.

Presenting Insights

The main goal is to communicate findings clearly and concisely.

Use visualizations like charts and graphs to make complex data accessible.

Tailor presentations based on the audience's technical expertise.

Example: Showcase a sales forecast with a simple chart for non-technical stakeholders.

Visualizations

Visualizations simplify data interpretation and make insights more engaging.

Tools like Matplotlib, Seaborn, Tableau, and Power BI help create impactful visualizations.

Example: Use a line chart to demonstrate how marketing spend correlates with sales

Interactive dashboards can provide dynamic and real-time insights.

Reports

Generate detailed reports summarizing methodology, findings, and actionable insights.
Include key metrics, model performance, and limitations for transparency.
Reports can help stakeholders understand the model's results in detail.
These documents ensure clarity and serve as a reference for future decision-making.

Storytelling

Combine data insights with a compelling narrative for better engagement.
Use relatable examples to connect technical results with business goals.
Example: "Investing $100 in marketing is projected to increase sales by $400."
A strong story makes the data more relevant and memorable for stakeholders.

Building Applications

Data science insights must be integrated into applications for stakeholders to use.
Dashboards and APIs are essential tools for real-time decision-making.
Example: A dashboard can show daily sales trends and future forecasts.
Tools like Dash (Python) and Streamlit are commonly used for app deployment.

APIs for Model Deployment

Machine learning models are often deployed as APIs to integrate with business systems.
Example: A Flask app with a POST endpoint to predict sales based on marketing spend.
This makes models accessible via simple HTTP requests.
Deploying models as APIs allows seamless integration into real-time systems.

Objective: Develop a dashboard for a retail company to monitor and forecast sales.
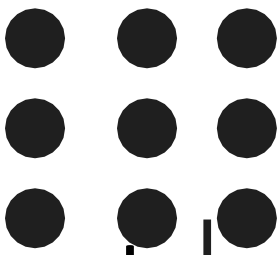
Features: Display historical sales data, future forecasts, and regions/products with declining sales.

Use Python's Dash library for creating an interactive dashboard.

This dashboard can help managers make informed decisions based on data-driven forecasts.

User-Centric Design: Tailor applications and presentations to user needs and preferences.

Simplicity: Avoid overloading the audience with excessive details.

Interactivity: Allow users to explore data dynamically for deeper insights.

Following these best practices enhances usability and ensures the effectiveness of data science solutions.

THANK YOU