SNS College of Technology

Coimbatore - 35

23BAT615 – Artificial Intelligence for Managers

Unit V – Frameworks For Delivering AI Solutions

Presented by

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Design Thinker

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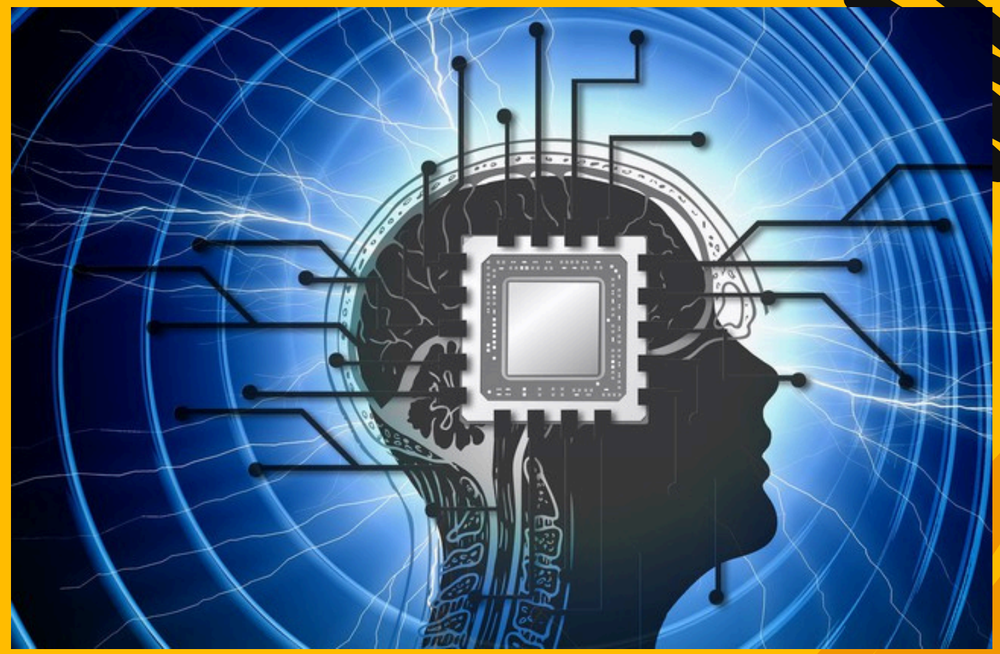
Guess the Topic!!!

Application of AI & ML in Marketing

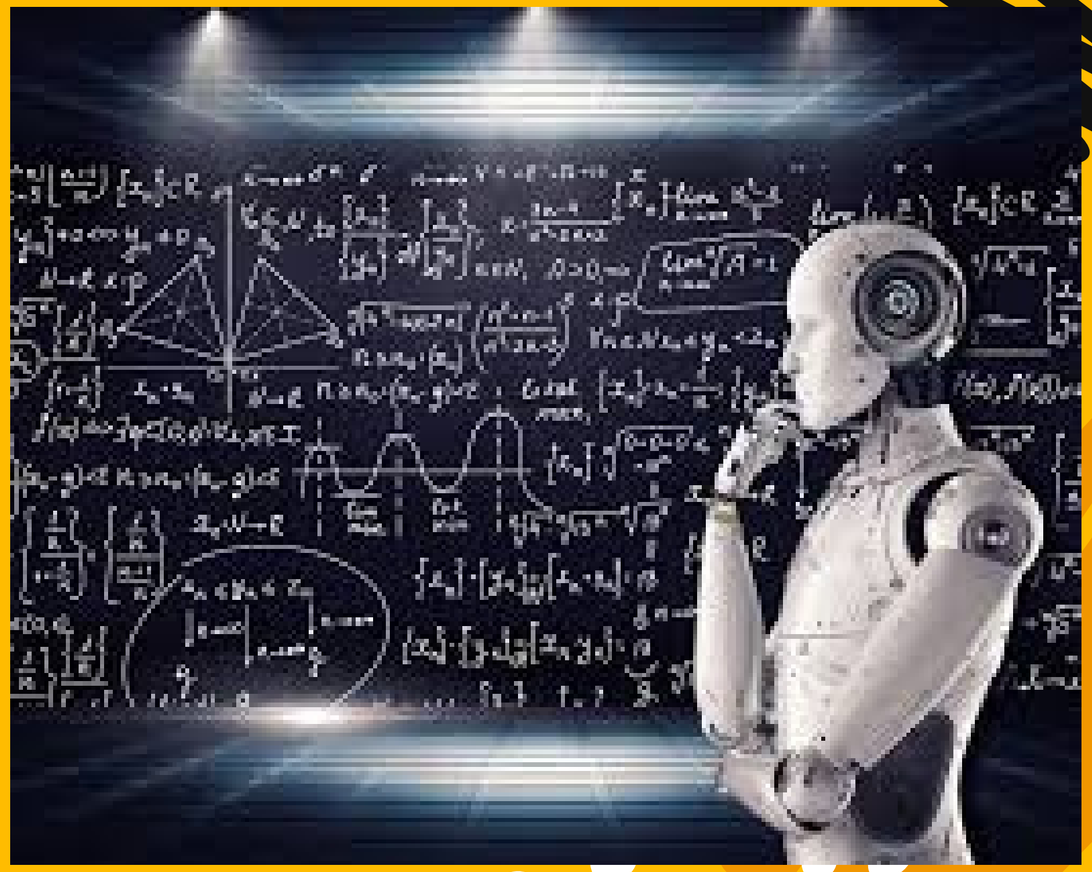
Recap

- Reason to study implementation and change management consideration
- Implementation of AI & ML in business
- Change management considerations in AI & ML in business



Discussion about….

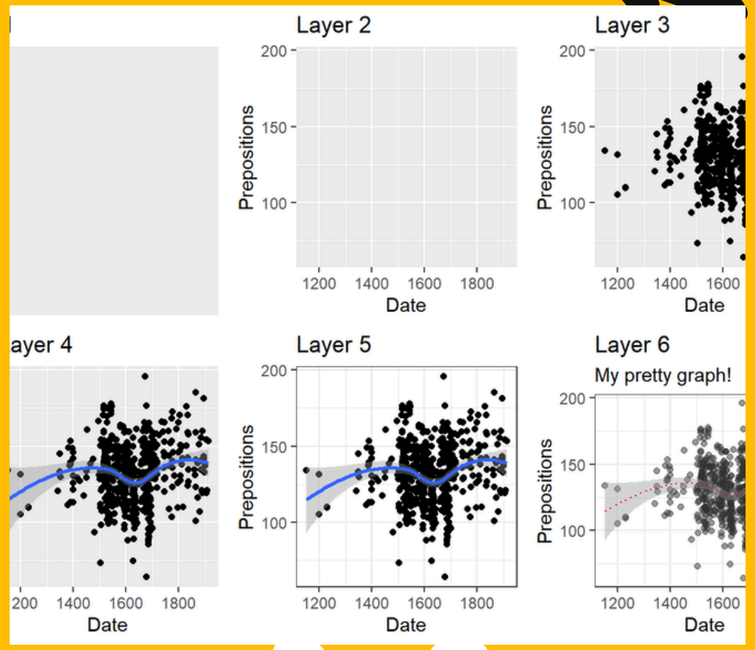
- Reason to study AI & ML in Marketing
- Current state of AI in Marketing
- Data Preprocessing Visualization
- Model Performance Visualization
- Feature Importance
- Model Interpretability
- Deployment and Monitoring



Data Preprocessing Visualization

Histograms and Density Plots: For understanding the distribution of features.

- Box Plots: To detect outliers and understand the spread of the data.
- Pair Plots: To observe relationships between features.



Model Performance Visualization

*Confusion Matrix: For classification models to visualize true vs. predicted values.

- ROC and AUC Curves: To evaluate the performance of binary classifiers.

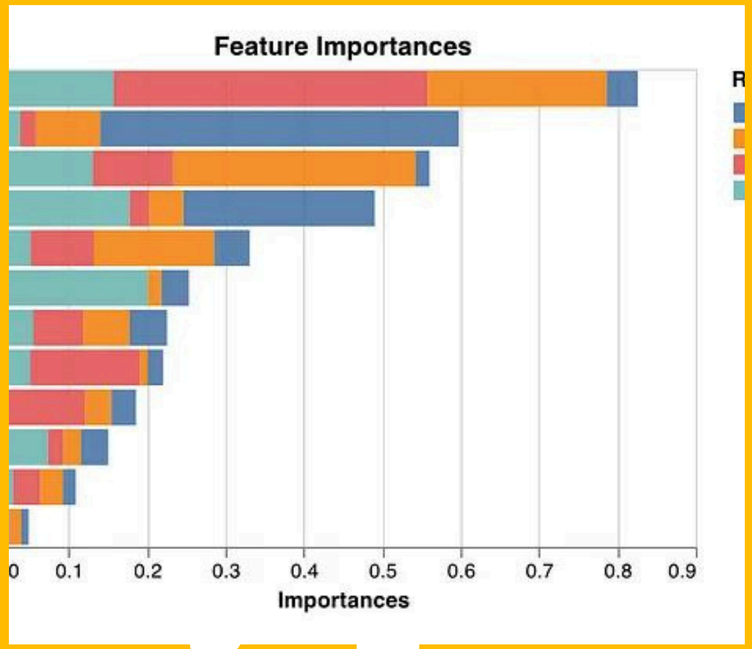
- Precision-Recall Curve: Useful for imbalanced datasets.

Feature Importance

Bar Charts: To show the importance of different features in the model.

- SHAP Values: For understanding the contribution of each feature to the predictions.

- Partial Dependence Plots: To illustrate the effect of a single feature on the predicted outcome.



Model Interpretability

LIME (Local Interpretable Model-Agnostic Explanations)
To explain individual predictions.

SHAP (SHapley Additive exPlanations):
To provide global and local explanations for model predictions.

Model Training Visualization

- Learning Curves: To show how the model's performance improves over time.
- Validation Curves: To see how different hyperparameters affect model performance.

Deployment and Monitoring

Deployment and Monitoring

- Real-time Dashboards: For monitoring model performance in production.
- Error Analysis*: Using visual tools to understand where the model is making mistakes.

Dimensionality Reduction

- PCA (Principal Component Analysis) Plots: To visualize high-dimensional data.
- t-SNE (t-Distributed Stochastic Neighbor Embedding)*: For visualizing complex data structures.

Exploratory Data Analysis (EDA)

- Correlation Heatmaps: To show relationships between different features.
- Scatter Plots: For observing relationships between two variables.

Summary

- Reason to study AI & ML in Marketing
  Current state of AI in Marketing
- Data Preprocessing Visualization
- Model Performance Visualization
- Feature Importance
- Model Interpretability
- Deployment and Monitoring

References

- https://www.salesforce.com/in/resources/guides/role-of-ai-in-marketing/#:~:text=Marketing%20Automation%3A%20AI%20is%20utilised,respond%20positively%20to%20marketing%20messages.

Thanks!

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