ML MODULE WITH IBM WATSON

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- 1.Data Ingestion: Upload and prepare your dataset within Watson Studio's environment.
- 2.Data Preprocessing: Clean and preprocess the data, which may involve handling missing values,
- encoding categorical variables, and scaling features.
- 3.Feature Engineering: Create new features or transform existing ones to improve the model's
- predictive performance.
- 4.Splitting the Data: Divide your dataset into a training set and a testing/validation set to assess the
- model's performance.
- 5.Model Selection: Choose a suitable machine learning algorithm for churn prediction.
- Common algorithms include logistic regression, decision trees, random forests, or
- gradient boosting.
- 6.Model Training: Train the selected model on the training data.

- 7.Hyperparameter Tuning: Optimize the model's hyperparameters to improve its predictive accuracy.
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- 8.Model Evaluation: Evaluate the model's performance using appropriate metrics (e.g.,accuracy, precision, recall, F1-score, ROC AUC).
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- 9.Model Validation: Assess the model's performance on the testing/validation dataset to ensure it generalizes well to new data.

Model Deployment:

To deploy the trained model in IBM Cloud Watson Studio:

- 1.Save the Model: Save the trained machine learning model.
- 2.Create a Deployment Space: Within Watson Studio, create a deployment space where your
- model will be hosted.
- 3.Deploy the Model: Use the deployment capabilities within Watson Studio to deploy the model
- as a web service. You can select the appropriate runtime environment and configuration.
- 4.Scoring Endpoint: After deployment, you'll obtain a scoring endpoint URL that allows you to
- make predictions in real-time.

Integration

You can integrate the deployed model into applications or systems for real-time predictions:

- 1.API Integration: Use the scoring endpoint URL to make API calls to the model. This can be
- integrated into your web or mobile applications.
- 2.Batch Processing: For batch processing, you can schedule regular data updates and
- predictions based on the model's output. This can be used for customer segmentation or
- targeted marketing campaigns.
- 3.Monitoring and Feedback Loop: Continuously monitor the model's performance and gather
- feedback on its predictions to further improve its accuracy and relevance.
- By following this process, you can create a predictive analytics use case to predict customer
- churn, and leverage IBM Cloud Watson Studio for dataset preparation, model training,
- deployment, and seamless integration into your business processes.