

# Artificial Intelligence for Communication and Marketing

## Lab Exam

6 June 2025

### Case Study

The Chief Marketing Officer (CMO) of a leading retail e-commerce platform has raised concerns about a growing rate of customer attrition, negatively impacting average order value and overall customer lifetime value (CLV).

To counter this trend, the CMO has tasked the Data & AI team with developing a predictive model capable of identifying customers who are at high risk of churning. The insights generated will be used to inform proactive retention strategies such as personalized offers and targeted communications, aiming to boost loyalty and profitability.

The executive team considers this project a key step toward enhancing customer retention, improving marketing effectiveness, and sustaining revenue growth.

### Assignment

The candidate is required to conduct a Churn Prediction model based on the case study presented and the dataset provided.

Each candidate must submit:

#### Source Code

- Implemented using either a Jupyter Notebook or standard Python .py scripts
- Code must be well-structured, readable, and include appropriate documentation

Presentation Slides (recommended format: PDF or PowerPoint), including:

- Business context and project objectives (1-2 slides)
- Dataset description and key variables (1-2 slides)
- Analytical methodology used in model development (1-2 slides)
- Assessment of the business insights generated and practical recommendations (1-2 slides)

### Dataset

The dataset provided contains transactional data, with columns representing:

- CustomerID - Unique customer ID
- Churn - Churn Flag
- Tenure - Tenure of customer in organization
- PreferredLoginDevice - Preferred login device of customer
- CityTier - City tier
- WarehouseToHome - Distance in between warehouse to home of customer

- PreferredPaymentMode - Preferred payment method of customer
- Gender - Gender of customer
- HourSpendOnApp - Number of hours spend on mobile application or website
- NumberOfDeviceRegistered - Total number of deceives is registered on particular customer
- PreferedOrderCat - Preferred order category of customer in last month
- SatisfactionScore - Satisfactory score of customer on service
- MaritalStatus - Marital status of customer
- NumberOfAddress - Total number of added added on particular customer
- Complain - Any complaint has been raised in last month
- OrderAmountHikeFromlastYear - Percentage increases in order from last year
- CouponUsed - Total number of coupon has been used in last month
- OrderCount - Total number of orders has been places in last month
- DaySinceLastOrder - Day Since last order by customer
- CashbackAmount - Average cashback in last month

### **Deliverables and Submission Process**

The candidate is be required to upload on the KIRO platform a .zip file named with the following standard.

<MATRICOLA>-<SURNAME>-<NAME>.zip

The file shall contain:

a folder named 'src' or 'notebook' containing the source code a file containing the presentation

Materials should be uploaded to the KIRO platform no later than midnight of the day before the date of the written exam.