**Project Proposal for Modelling and Optimization Under Uncertainty.**

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**Title: Analyze and Predict Customer Conversion in Digital Marketing Using Machine learning Techniques**

**Problem Statement:**

Despite significant investment in digital marketing, many organisations struggle to identify high-potential leads and predict their likelihood of conversion. Traditional approaches may fail to properly capture the complex nature of client interactions and qualities. This project seeks to create a prediction model that reliably projects consumer conversions based on historical data, allowing for more targeted and effective marketing methods.

**Aim and Objective:**

This project aims to Analyze and predict the customer conversion developing and implementing a Latent Dirichlet Allocation (LDA) on the Digital marketing dataset.

**Objectives:**

Predicts the probability of customer conversion based on various features from a digital marketing dataset. This model will help in identifying high-potential leads and optimizing marketing strategies.

**Plan of Work:**

**1.Data Acquisition and Preparation:** Collect clickstream data from the UCI Machine Learning Repository.Clean and preprocess the data to handle missing values and remove or correct outliers.

**2.Exploratory Data Analysis:** Analyze each feature in the dataset to understand its distribution, variance, and any underlying patterns.

**3.LDA Modelling Network Development: Apply LDA to identify the customer conversion and identify the uncovered issue.**

**4.Prediction and Risk Assessment: Use LDA compute the probability of customer conversion and Enhancing digital marketing**

**5.Documentation and Reporting: :** Document the methodology, findings and results.

UCI Machine learning Dataset link:

[https://www.kaggle.com/datasets/rabieelkharoua/predict-conversion-in-digital-marketing-dataset](https://www.kaggle.com/datasets/rabieelkharoua/predict-conversion-in-digital-marketing-dataset%20)