**Proposal: Predicting Interest Rate Movements in the Canadian Economy Using Macroeconomic Indicators**

**Objective:**  
The aim of this project is to build a predictive model for forecasting future interest rate movements in the Canadian economy. The model will use key macroeconomic indicators, including historical interest rates, inflation (CPI), GDP growth, and the unemployment rate, to provide insights into how these variables influence changes in interest rates.

**Background:**  
Interest rates, determined by the Bank of Canada, are a critical tool for managing the economy, affecting everything from consumer borrowing to corporate investments. Accurate predictions of interest rate movements are crucial for financial institutions, policy-makers, and investors. This project will leverage historical data and macroeconomic indicators to predict future trends, providing valuable insights for decision-making in the banking and financial sectors.

**Scope of Work:**

1. **Data Collection**:
   * Historical interest rate data from the **Bank of Canada**.
   * Inflation (CPI) data, GDP growth, and unemployment rates from **Statistics Canada**.
2. **Data Analysis**:
   * Perform exploratory data analysis (EDA) to understand relationships between the variables.
   * Use time-series forecasting techniques to predict interest rate movements based on historical trends and macroeconomic factors.
3. **Modeling Approach**:
   * Use machine learning algorithms such as ARIMA, Random Forest, or XGBoost for prediction.
   * Compare model performance to select the best predictor of interest rate changes.
4. **Expected Outcomes**:
   * A predictive model that forecasts interest rate movements based on selected macroeconomic indicators.
   * Visualizations and insights into the relationships between inflation, GDP growth, unemployment rate, and interest rates.

**Significance:**  
This project aligns with my background in the banking and financial industry and aims to provide practical insights into interest rate dynamics, which is relevant for organizations like RBC Capital Markets. By accurately forecasting interest rate movements, banks and investors can better navigate financial planning and risk management strategies.

**Data Sources**:

* Bank of Canada: Historical Interest Rates
* Statistics Canada: CPI, GDP, and Unemployment Rate