**Loan Prediction project proposal.**

## **Overview**

### **Context**

Financial institutions, like banks and credit unions, face the challenge of accurately assessing the creditworthiness of loan applicants. This decision-making process involves balancing the risk of loan default with the potential for profit and serving the needs of their customers. Traditional methods often rely on manual review and credit scoring models, which can be time-consuming, prone to bias, and limited in their ability to capture complex relationships within the data.

### **Objectives**

Develop a robust and reliable machine learning model to predict whether to authorize or not a loan to a customer. This model will be used to:

* Improve loan approval efficiency: By automating the initial screening process, the model can help streamline loan applications and reduce the workload on loan officers.
* Reduce risk of loan default: By accurately identifying high-risk applicants, the model can help financial institutions make informed lending decisions and minimize potential losses.
* Promote financial inclusion: By considering a wider range of factors beyond traditional credit scores, the model can potentially enable institutions to extend credit opportunities to a broader and more diverse pool of applicants.

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| **Milestones** | **Tasks** | **PACE stages** |
| **1** | **Understand the business scenario and define the problem** | **Plan** |
| **2** | **Data exploration and data cleaning** | **Plan, Analyze** |
| **3** | **Determine which models are most appropriate** | **Analyze, Construct** |
| **4** | **Construct the model** | **Construct** |
| **5** | **Confirm model assumptions** | **Analyze, Construct** |
| **6** | **Evaluate model results** | **Analyze** |
| **7** | **Interpret results and share actionable steps with stakeholders** | **Execute** |

***The estimated times for the milestones:***

Milestone 1: 1-2 days

Milestone 2: 2-3 weeks

Milestone 3: 1 week

Milestone 4: 1 week

Milestone 5: 1 week

Milestone 6: 1-2 weeks

Milestone 7: 1-2 weeks