

Project Initialization and Planning Phase

Date	10-06-2025
Team ID	SWTID1749896042
Project Title	Unemployed insurance beneficiary forecasting
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

The proposal report aims to transform loan approval using machine learning, boosting efficiency and accuracy. It tackles system inefficiencies, promising better operations, reduced risks, and happier customers. Key features include a machine learning-based credit model and real-time decision-making.

Project Overview	
Objective	The primary objective is to predict the number of unemployment insurance beneficiaries using advanced machine learning techniques. This ensures better planning, resource allocation, and policy-making for government agencies and organizations.
Scope	The project comprehensively analyzes historical unemployment insurance data and builds predictive models to forecast future beneficiary counts, enabling proactive decision-making and efficient fund management.
Problem Statement	
Description	Government agencies face challenges in accurately estimating the number of individuals who will claim unemployment insurance in the future. Lack of precise forecasting leads to inefficient resource allocation, budget mismanagement, and delayed policy responses.
Impact	Solving these issues will result in: <ul style="list-style-type: none">• Improved financial planning for unemployment funds• Optimized policy decisions during economic fluctuations• Enhanced support for unemployed individuals by ensuring timely disbursement of benefits
Proposed Solution	
Approach	Employing machine learning techniques to analyze historical unemployment insurance beneficiary data and predict future trends. The system will provide dynamic, data-driven forecasts to support decision-making processes.

Key Features	<ul style="list-style-type: none">• Implementation of time series forecasting models for predicting future beneficiary counts• Data preprocessing pipelines to handle missing values, outliers, and feature engineering• Visualization dashboards for intuitive understanding of trends and forecasts• Ability to update forecasts continuously as new data becomes available
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Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask (for deployment if required)
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn, statsmodels
Development Environment	IDE	Jupyter Notebook, pycharm
Data		
Data	Source, size, format	unemployment-insurance-beneficiaries-and-benefit-amounts-paid-beginning-2001-1.csv