

Milestone 1 Report: Intent & Entity Recognition Engine

Introduction

Milestone 1 focuses on building the Natural Language Understanding (NLU) foundation of the banking chatbot. This module enables the system to understand user queries and classify them into meaningful banking intents.

Objectives

- Identify key banking intents such as balance inquiry, loan inquiry, card services, greetings, and out-of-scope queries.
- Create a structured training dataset with example phrases.
- Implement entity extraction for account numbers, dates, and account types.

Implementation

TF-IDF vectorization was applied to transform textual data into numerical features. A Logistic Regression classifier was trained to predict user intents. Entity extraction logic was implemented to detect account numbers and numeric values from user queries.

Evaluation & Results

The model was evaluated using precision, recall, F1-score, and accuracy metrics. Test queries confirmed correct identification of intents and successful extraction of entities.

Outcome

The chatbot can accurately classify user queries and extract essential entities, forming a strong base for dialogue handling.