Client Insight Card

NLP Analysis for Chat System Optimization

Intent Distribution Countplot

Model Accuracy Score

Project Overview

Project Domain: NLP – Conversational AI (Intent Classification)
Goal: Train and evaluate a model to understand user queries and map them to specific intents for improved chatbot performance.
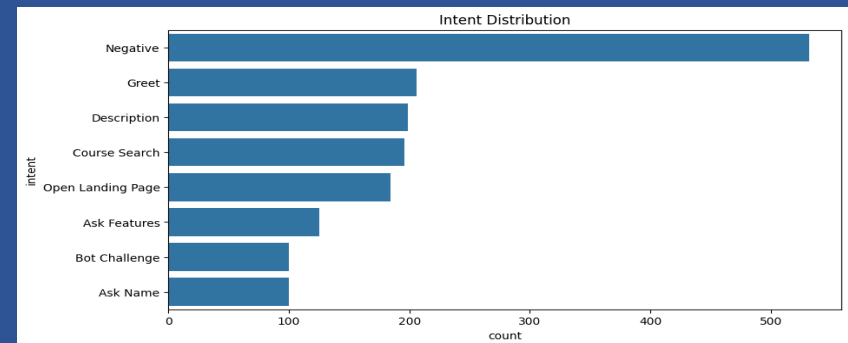
Key Insights

1. **Dataset:** 1,642 labeled queries –diverse and well-structured.

2. **Preprocessing:** Text normalized (lowercase, punctuation removed), labels encoded.

3. **Performance:** Achieved 99% accuracy, but slight class imbalance may risk overfitting.

Recommendation

Use data augmentation or class rebalancing techniques to enhance generalization and reduce potential overfitting in underrepresented intent classes.