

# QuickAssist

## Project Proposal

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# Problem Statement

## Motivation:

- Enhance efficiency and user satisfaction by automating customer support interactions.
- Reduce customer wait times through instant and accurate responses.

# Problem Statement

Problem definition:

- Input: Customer message (text query).
- Output: Relevant and helpful chatbot response.
- NLP Tasks: Text Generation, Intent Recognition, Contextual Understanding.

# Problem Statement

## Challenges:

- Understanding customer intent accurately.
- Handling ambiguous or vague customer queries.
- Providing consistent and context-aware replies.

# Training and Test Data

## Customer Service For LLM

- Public dataset, [customer-service-for-llm](#)
- Intents: 27 distinct intents.
- Categories: 11 categories.
- Question/Answer Pairs: Approximately 2,700 pairs.

### Dataset Entry Example:

**Text:** "need assistance to see my invoices from {{Person Name}}. "

**Intent:** check\_invoice

**Entities/Slots:** Invoice Number: "#45678"

# Training and Test Data

## Bitext

- Public dataset, [Bitext](#)
- 27 Intents
- 10 Categories
- 26872 Question/Answer pairs
- 30 entity/slot types

### Dataset Entry Example:

**Text:** "I want to return the shoes I bought last week."

**Intent:** `return_product`

**Entities/Slots:** `Product`: "shoes" , `Time`: "last week"

# Evaluation:

## LLM-Based Evaluation

- Use GPT-4 (or similar) to score the chatbot's responses based on:
- Helpfulness – Did it address the user's complaint?
- Fluency – Is it clearly written and grammatically correct?
- Appropriateness – Is the tone professional, polite, and relevant?

## BERTScore

- compares the generated response to the reference response based on semantic similarity using BERT embeddings, capturing meaning beyond exact word matches. Suitable for open-ended responses where phrasing may vary.