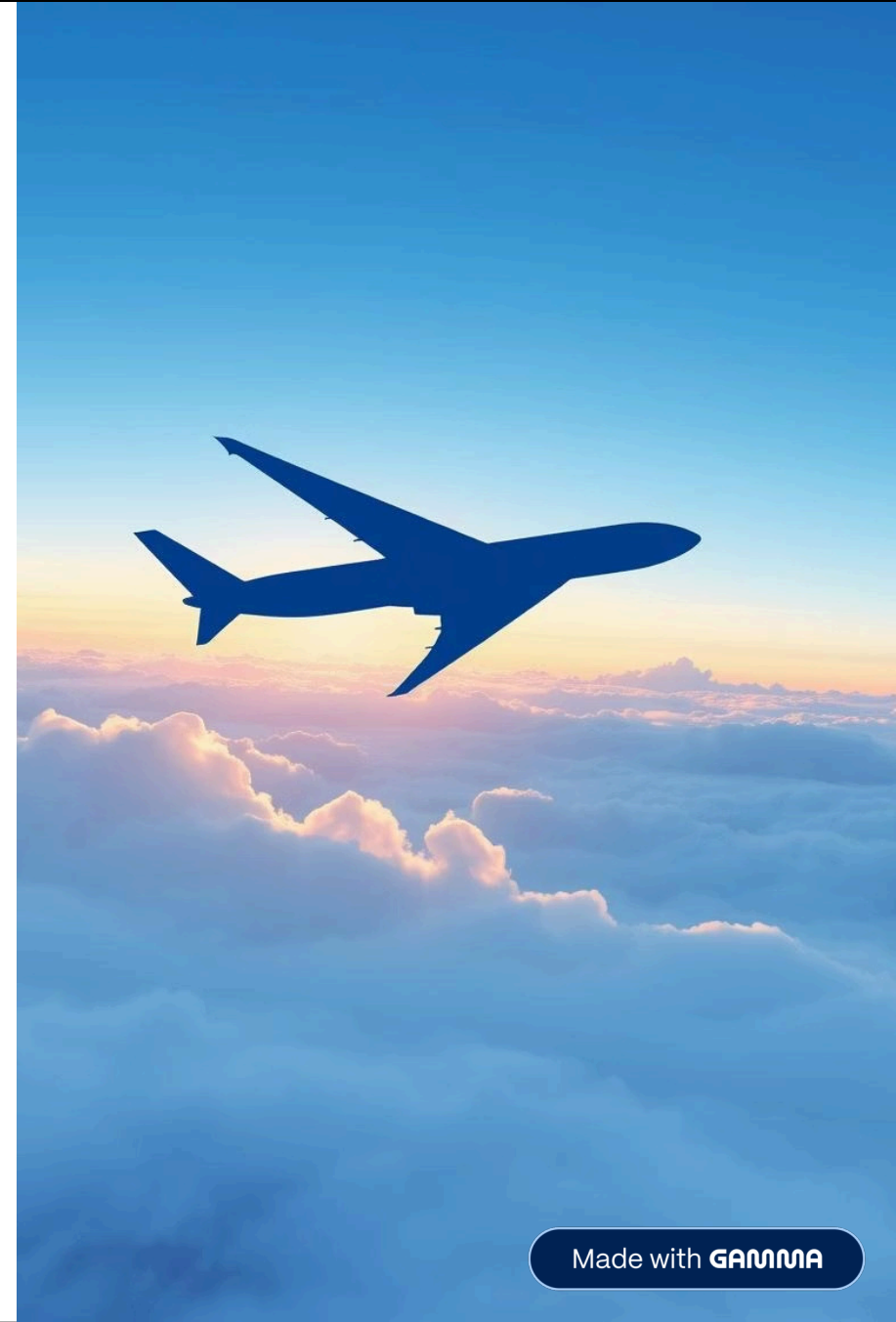


# SkyWings Airline Assistant

Customer Conversational Intelligence Platform Powered by an LLM Agent

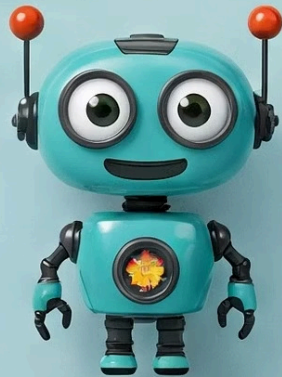
## DATA STORY

IISC - TS | CDS - Cohort 8 | **Group 1**

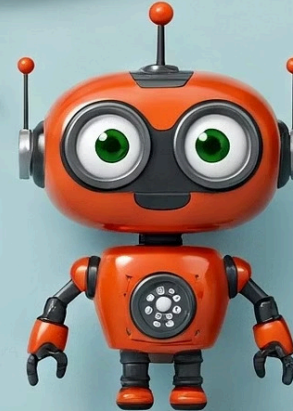


# Problem Statement

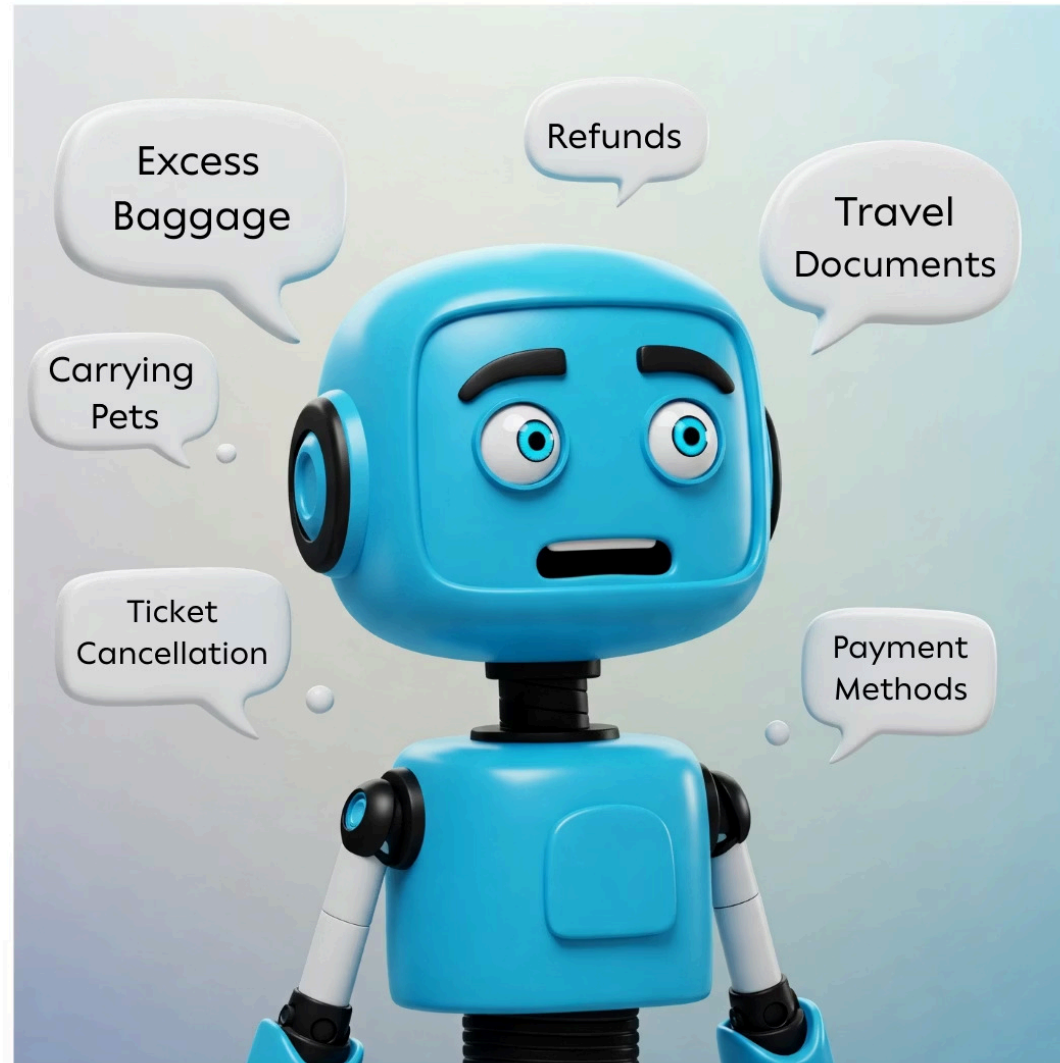
A traveler asked a chatbot for important travel info but got a confusing answer. This made them annoyed and unsure about how to get what they needed.



The chatbot couldn't help, so it sent the traveler to a real person. This made the traveler even more impatient. They wanted a quick answer, but they now faced a long wait, making them trust the process less.



# Bot Brain Fog

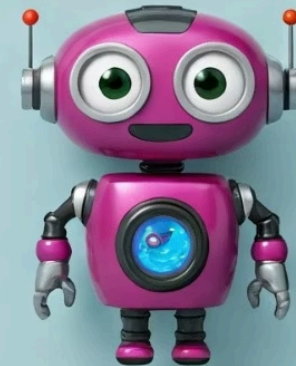


# What SkyWings would do

A special airline chatbot knows a lot about travel rules. It can answer tricky questions itself without needing a person. This makes things much easier for travelers.



This smart chatbot gives travelers the right info fast. This makes them trust the chatbot and helps them have a better trip because the help is quick and reliable.



# Our Data Journey

1

## Hunt for Datasets

Looked for publicly available datasets as a foundation for initial chatbot training

2

## Exploratory Data Analysis

Identified gaps in airline-specific coverage and inconsistencies in intent labeling.

3

## Synthetic Data Generation

Created custom queries to address missing airline-specific use cases and ensure better domain alignment.

4

## Intent Classification

Built classification models to recognize 12 broad intents based on the enriched dataset.

5

## Model Selection

Ran performance comparisons (F1-Score) to choose the most reliable model.

6

## Realised Need for Granular Intents

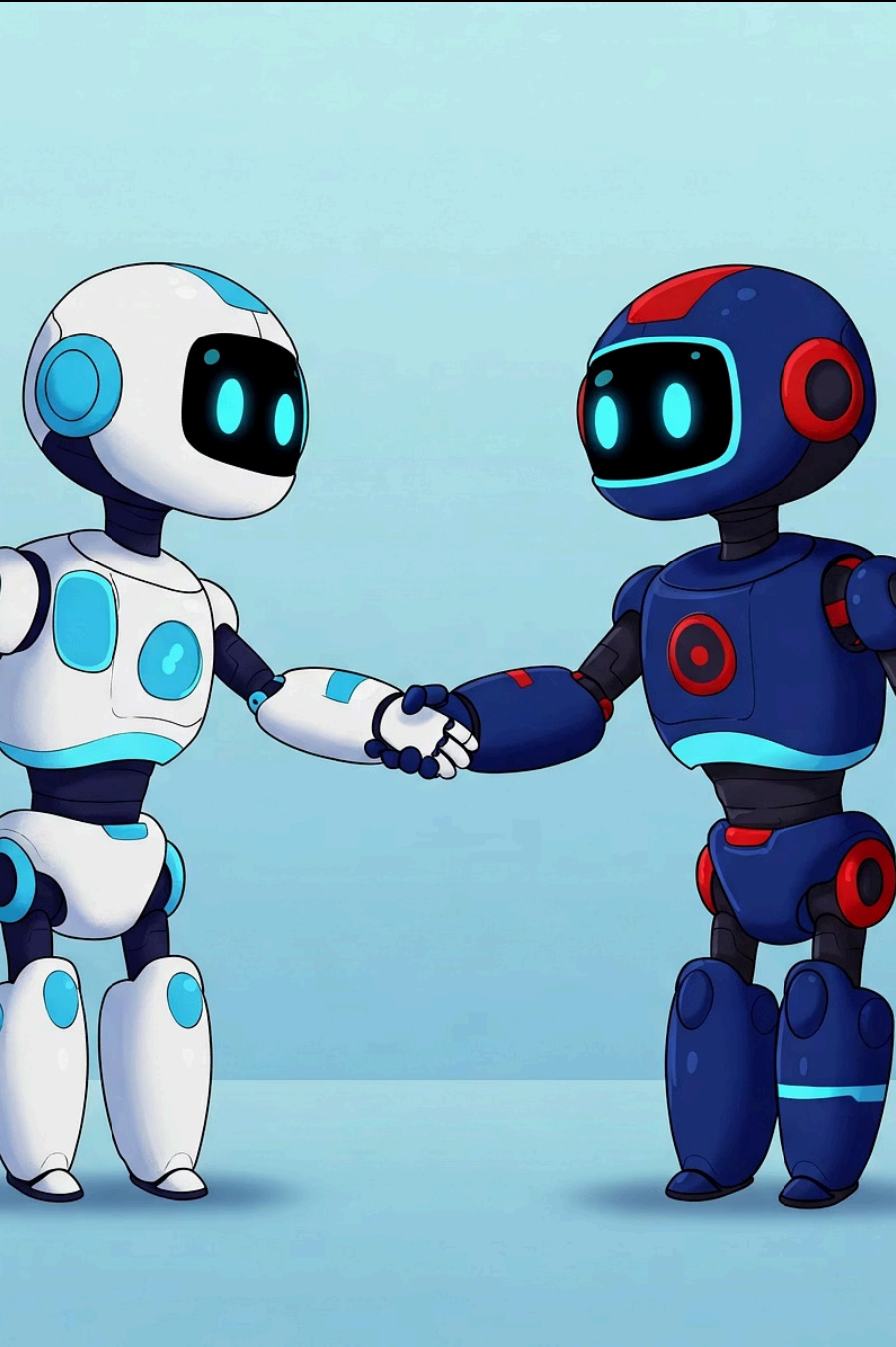
Needed finer intent labels to support accurate, helpful responses.

7

## Adopted RASA with Fine-grained Intent Flows

Allowed modular training and flexible intent handling within dialogue flows.





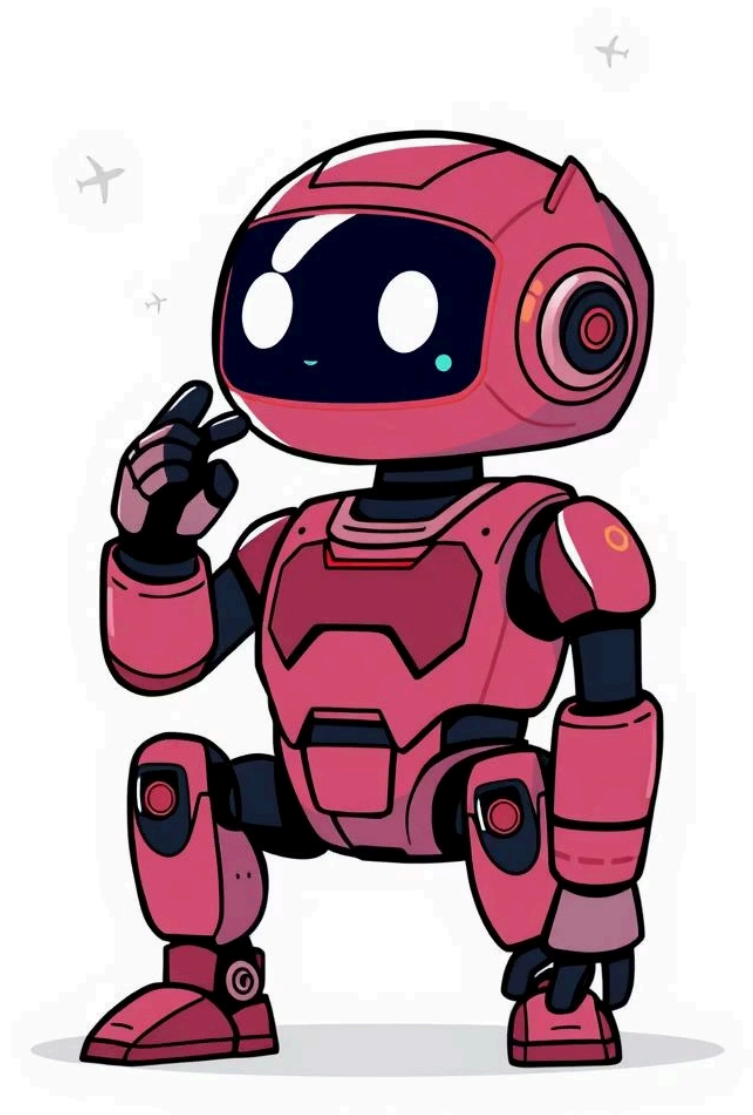
# The Power Duo: RASA meets RAG

Our super-smart bot uses two main powers.

First, it's a mind reader ("RASA") to understand your questions.

Second, it has a super brain ("Generation") that can create answers. But to give you the *right* answers, it also has a giant library of rules ("Retrieval-Augmented").

When you ask something, it figures out what you mean and then looks up the exact information in its library to create a helpful and accurate answer for you! It's like a mind-reading librarian with a super brain!

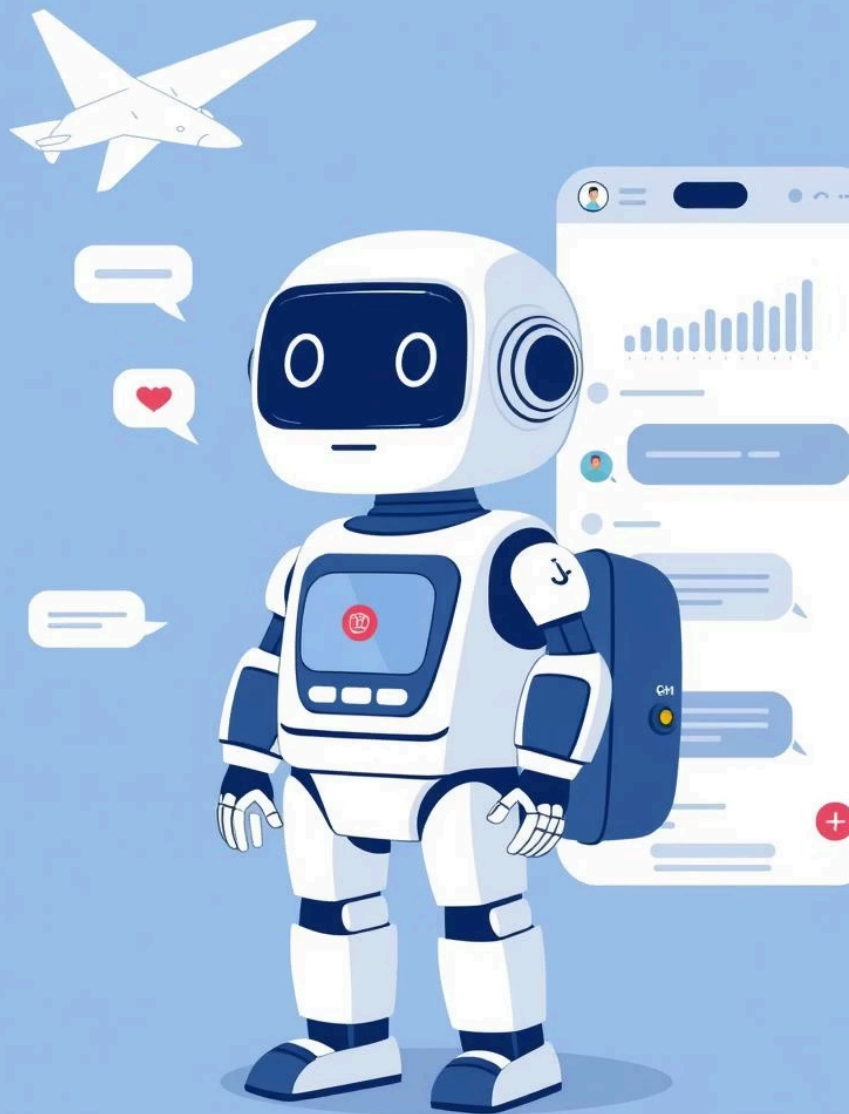


# Bot Brain Boost: We Gave It the Answers!

You know how frustrating it is when you can't find the exact airline info you need and end up clicking everywhere? Our robot is here to fix that!

Instead of making you hunt around, we went and found all the official airline rulebooks online. Then, we fed them straight into our robot's super brain (the LLM) – like loading it with all the right answers.

Now, when you ask a question, our bot just needs to pull the specific info it already has to give you exactly what you're looking for, fast! No more endless searching!



# Chat Anywhere, Act Now: Your All-in-One Travel Bot!

Our bot goes beyond answering questions; it acts as your personal travel assistant, capable of performing actions like ticket cancellations.

It's accessible via a user-friendly website (built with Streamlit) and WhatsApp, putting a super-smart travel assistant in your pocket.



# Conclusion:

So, to sum it all up, we've built a super-bot that's not just smart, but also super helpful and super accessible. It understands your questions, finds the perfect answers, and can even take action to make your travel life easier. It's like having a mind-reading, rule-knowing, action-taking travel assistant, all in one easy-to-use package! We think it's pretty amazing, and we hope you do too!

