Phase 3 submission template

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Revolutionizing Customer Support with Intelligent Chatbots

How to Revolutionize Customer Support with Intelligent Chatbots (Based on Your Project Skills)

You already have:

- ML modeling experience (regression, feature selection)

- Data preprocessing/EDA skills

- UI integration via Gradio

- Deployment and testing experience

Here's how you can reimagine that in a chatbot use case:

1. Customer Query Prediction Model

Just like G3 prediction, you can:

- Train a classification model on historical support tickets.

- Predict the intent (billing issue, technical error, refund request) using NLP techniques.

2. Integrate with an Intelligent Chatbot

Use frameworks like Rasa, Dialogflow, or OpenAI's API to:

- Use your model as a backend service for decision-making.

- Chatbot takes user input -> runs through intent predictor -> responds using pre-trained dialogue

templates.

3. Self-Service Assistant with Personalized Responses

Based on your work with personalized inputs (e.g., G1, G2, study time), imagine:

- For customer support, the chatbot uses CRM info (purchase history, region, previous complaints) to tailor responses.

- Example: "Hi Alex, I see you recently purchased a router. Are you experiencing connectivity issues?"

4. Gradio Chat Frontend (Prototype MVP)

You could:

- Build a chatbot-like Gradio interface with dropdowns or free text inputs.

- Hook it up to a classification model or OpenAI API for dynamic replies.

- Deploy a working customer support assistant prototype without needing a full frontend/backend infrastructure.

5. Future Scope in Customer Support AI

- Voice bots integrated with IVR systems

- Sentiment analysis to detect frustration or urgency

- Chat summarization for agent handovers (like SHAP for student predictions)

- Multilingual support via translation APIs