**Example 1 – Input File (JSON from raw dataset)**

**{**

**"id": "chat\_1023",**

**"channel": "live\_chat",**

**"timestamp": "2025-03-12T14:22:05Z",**

**"customer\_message": "Hi, my order hasn’t arrived yet. Can you help?",**

**"agent\_response": "I’m sorry for the delay. Could you please provide your order ID?",**

**"sentiment\_rating": "negative",**

**"pii\_removed": true**

**}**

**Example 2 – Output File (Processed after NLP pipeline)**

**{**

**"id": "chat\_1023",**

**"language": "en",**

**"tokens": ["order", "arrive", "help"],**

**"intent": "order\_status\_query",**

**"sentiment": "negative",**

**"retrieved\_context": [**

**"Estimated delivery is 3–5 business days.",**

**"Track order using the link in your email confirmation."**

**],**

**"system\_response": "I understand your concern. Could you please provide your order ID so I can check the delivery status?"**

**}**

**Example 3 – Input File (CSV dataset format)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **id** | **channel** | **timestamp** | **customer\_message** | **agent\_response** | **sentiment\_rating** | **pii\_removed** |
| chat\_1023 | live\_chat | 2025-03-12 14:22:05 | Hi, my order hasn’t arrived yet. Can you help? | I’m sorry for the delay. Could you please provide your order ID? | negative | true |
| email\_567 | email | 2025-03-11 09:05:10 | I want to return my shoes, they don’t fit. | Sure, I’ll guide you through the return process. | negative | true |

**Example 4 – Output File (CSV after processing)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **id** | **language** | **tokens** | **intent** | **sentiment** | **retrieved\_context** | **system\_response** |
| chat\_1023 | en | [order, arrive, help] | order\_status\_query | negative | ["Estimated delivery 3–5 days", "Track order in email"] | I understand your concern. Could you please share your order ID for tracking? |
| email\_567 | en | [return, shoes, fit] | product\_return | negative | ["Returns allowed within 30 days", "Free shipping label"] | Sorry your shoes don’t fit. You can return them within 30 days at no extra cost. |