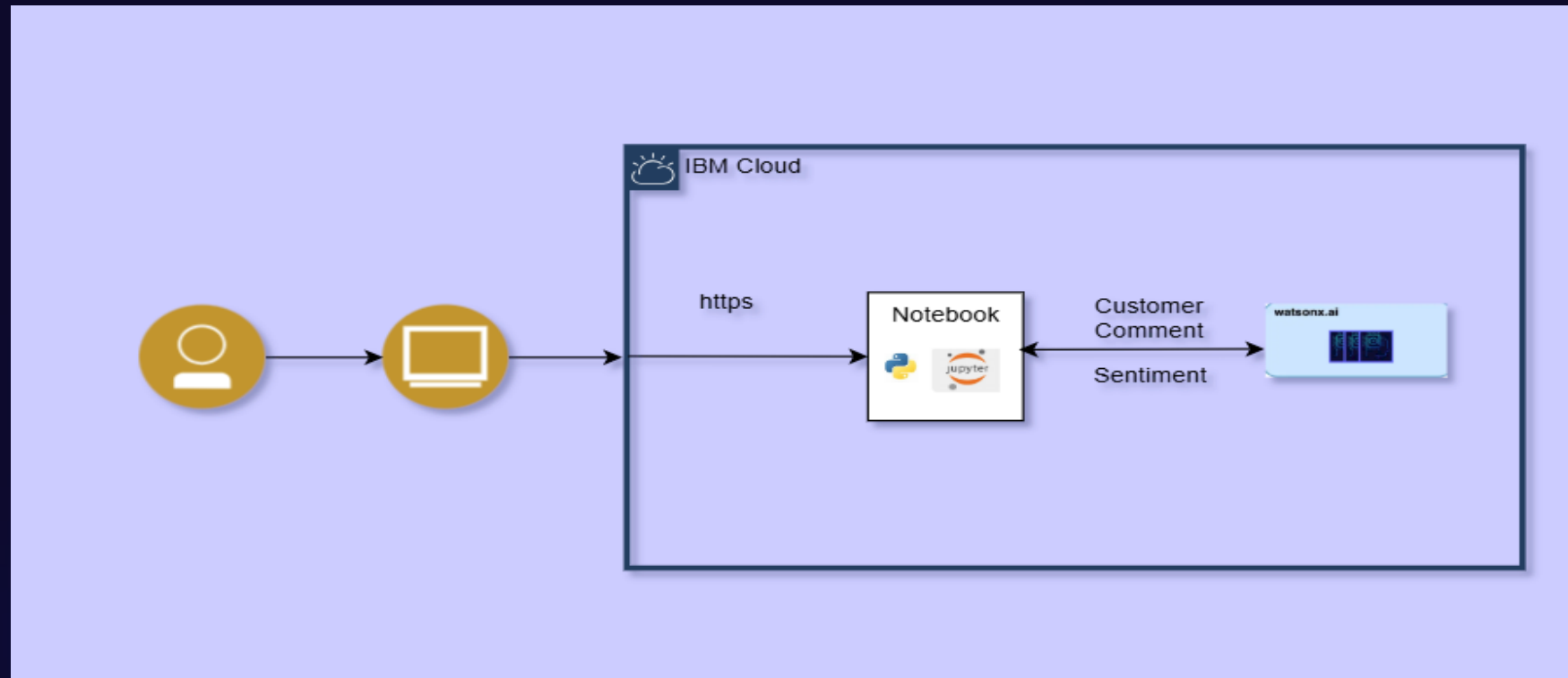# Customer Sentiment Analysis using Watsonx AI

Customer satisfaction is crucial for retaining customers and enhancing brand loyalty. We will be using data collected from the customers who have purchased electronics Gadgets like Laptops, Head phones etc.

Team : AI Maverick Team
Team Member: Rahul Bhave

Solution Architecture

Data Input

Customer feedback (comments and satisfaction scores) for Electronic devices

Watsonx AI

Granite-13b-Instruct-V2 model for sentiment analysis

Output

Sentiment (satisfied/unsatisfied)

Solution Architecture Details

1 Data Input — Customer feedback from electronic devices (comments, satisfaction scores)

2 AI Model — IBM Granite-13b-Instruct-V2 used for generating predictions on customer satisfaction

3 Output — Predicted sentiment labels (Satisfied/Unsatisfied) with 90% accuracy

4 Integration — The solution helps businesses quickly adapt to customer feedback, enabling data-driven decisions to improve products and services

Benefits of the Solution

Scalability

Automates large-scale customer feedback analysis

Accuracy

Achieves 90% accuracy in predicting customer sentiment

Productivity

Reduces manual effort, freeing up time for product and service improvements

Customer Insights

Provides deeper understanding of customer satisfaction, enabling timely interventions

Cost Implications

Initial Investment	Setting up Watsonx AI and acquiring IBM Foundation Model access
Operational Costs	API usage and cloud infrastructure (Watsonx services)
Long-Term Savings	Reduction in manual labor, faster insights, and improved customer retention due to better service/product development

Next Enhancements

1 ### Model Tuning

Fine-tuning the Granite-13b model for specific industries

2 ### Real-Time Analysis

Enable real-time sentiment analysis for live feedback
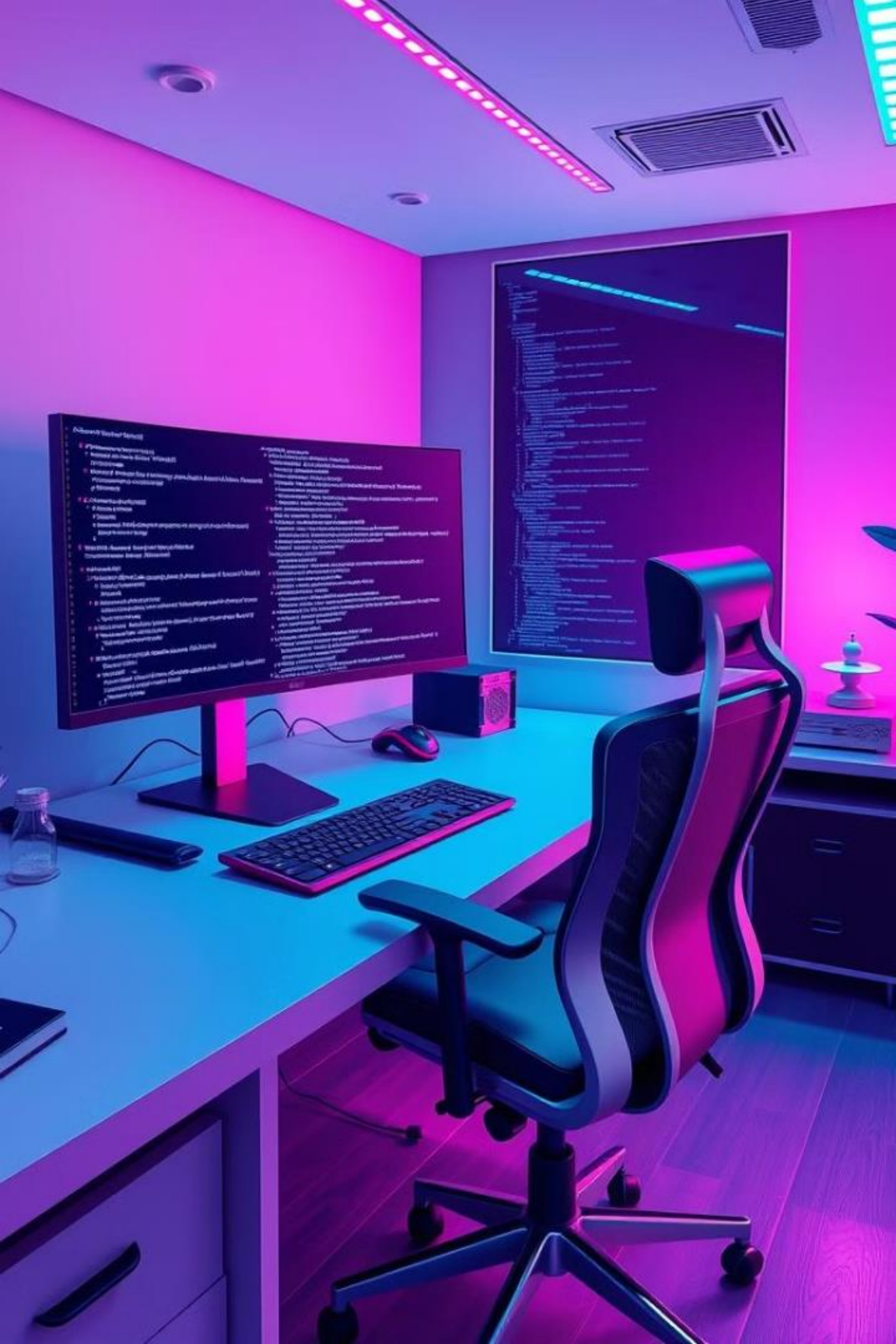
3 ### Multi-Language Support

Expanding the model to support different languages for global feedback analysis

4 ### Integration with CRM

Direct integration with customer management systems for action tracking

Appendix

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Tools Used

IBM Watsonx AI, Granite-13b-Instruct-V2 Model, Python libraries (datasets, scikit-learn)

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Resources

GitHub Repository, IBM TechXchange Hackathon Documentation

Thank you