Project Title
Improving Data Accuracy in CRM using AI.

Team Members

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1. Abstract

Customer Relationship Management (CRM) systems are critical for managing customer data and driving business decisions. However, inaccurate or incomplete data can hinder their effectiveness, leading to poor customer insights and missed opportunities. This project leverages Artificial Intelligence (AI) to identify, correct, and prevent data inaccuracies in CRM systems. By employing techniques like data validation, deduplication, and predictive analytics, this solution enhances the reliability of CRM data, ensuring organizations can make data-driven decisions with confidence.

2. Problem Definition

CRM systems often suffer from poor data quality due to human errors, outdated information, and incomplete records. These issues can lead to misinformed strategies, loss of customer trust, and inefficient operations. This project addresses the challenge of maintaining accurate CRM data by integrating AI solutions to automate data cleaning, enrichment, and real-time validation.

3. Key Questions

1. How can AI be utilized to detect and correct inaccuracies in CRM data effectively?
2. What are the best practices for integrating AI solutions with existing CRM systems?
3. How can the solution ensure ongoing data accuracy and prevent future discrepancies?

4. Target Users

- **Businesses**: Organizations using CRM systems to manage customer relationships.
- **Sales and Marketing Teams**: Professionals relying on accurate CRM data for customer segmentation and outreach.
- **IT Teams**: Teams responsible for managing and maintaining CRM systems.

5. Goal

- **Primary Goal**: To enhance the accuracy and reliability of CRM data using AI-driven solutions.
- **Secondary Goals**:

- Minimize manual data entry errors.

- Provide insights into data quality trends over time.

- Streamline workflows for data validation and enrichment.

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6. Requirements

Functional Requirements

4. Automated data cleaning and deduplication.

5. Real-time validation of incoming CRM data.

6. Integration with popular CRM platforms (e.g., Salesforce, HubSpot).

7. Reporting and visualization dashboards for data quality metrics.

Non-Functional Requirements

1. High system reliability and availability.

2. Scalability to handle large datasets.

3. User-friendly interfaces for both technical and non-technical users.

4. Secure handling of sensitive customer data.

7. Tools and Platforms

Tools

- Python (for data processing and model development).

- TensorFlow or PyTorch (for AI model development).

- IBM Watson Studio (for AI lifecycle management).

IBM Cloud Services

- IBM Cloud Pak for Data (for data integration and governance).

- IBM Watson AI Services (for AI-powered APIs).

- IBM Db2 (for database management).

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8. Implementation Plan

Data Preparation

- o Collect CRM data (synthetic or real) for training and testing.

- o Preprocess data to handle missing values, duplicates, and inconsistencies.

Model Development

- o Develop AI models for data validation, deduplication, and enrichment.

- o Train models using labelled datasets.

Model Deployment

- o Deploy AI models as APIs using IBM Watson Studio.

- o Integrate APIs with CRM systems for seamless operation.

Monitoring and Feedback

- o Set up dashboards for monitoring model performance.

- o Implement feedback loops for continuous improvement.

Reporting and Visualization

- o Create visual reports highlighting data quality trends and improvements.

- o Provide actionable insights for users.

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9. Expected Outcomes

- Reduction in manual effort for data cleaning.
- Immediate improvement in CRM data accuracy.
- Enhanced decision-making through reliable data.
- Increased customer satisfaction and retention rates.
- A scalable framework for maintaining CRM data quality over time.