

IMPROVED SOURCE OF DRINKING WATER

PROJECT TITLE

Presented By:

Name: Nerella. Nagavalleswari

College Name: MohanBabu University

Department: Artificial Intelligence and
Machine Learning

OUTLINE

Problem Statement

Proposed System/Solution

System Development Approach

Algorithm & Development

Result(Output Image)

Conclusion

Future Scope

PROBLEM STATEMENT

Access to safe and improved sources of drinking water remains a critical issue in India, especially in rural and underdeveloped regions. Despite ongoing efforts under the Sustainable Development Goals (SDGs), inequalities persist in water accessibility across states and socio-economic groups. This project aims to analyze data from the 78th Round of the Multiple Indicator Survey (MIS) to assess the percentage of the population with access to improved drinking water sources. It will also explore related indicators such as use of clean cooking fuel and migration trends. By identifying patterns and disparities, the study will generate actionable insights to support evidence-based policymaking. The ultimate goal is to help ensure equitable access to clean water and contribute to India's progress on SDG targets.

PROPOSED SOLUTION

Data Collection:

Source: AI Kosh – Multiple Indicator Survey (MIS), 78th Round

Link: Improved Source of Drinking Water Dataset

Format: .csv or .xlsx

Data Preprocessing:

Cleaning:

- 1.Remove missing values
- 2.Drop irrelevant or duplicate rows

Machine Learning Algorithm

Goal: Classify if a household has access to improved drinking water

Input Features:

Caste, education, income, clean fuel use, migration status

Model Deployment

Platform: IBM Watson Machine Learning

Steps:

1. Save model using joblib or pickle
2. Create a deployment space in Watson Studio
3. Upload model artifact
4. Deploy model as REST API

Model Evaluation:

Metrics:

Accuracy

Precision, Recall, F1-score

Confusion Matrix

SYSTEM APPROACH

The "System Approach" section outlines the overall strategy and methodology for developing and implementing the rental bike prediction system. Here's a suggested structure for this section:

1. System requirements
2. Library required to build the model

ALGORITHM & DEPLOYMENT

In the Algorithm section, describe the machine learning algorithm chosen for predicting bike counts. Here's an example structure for this section:

Algorithm Selection:

Provide a brief overview of the chosen algorithm (e.g., time-series forecasting model, like ARIMA or LSTM) and justify its selection based on the problem statement and data characteristics.

Data Input:

Specify the input features used by the algorithm, such as historical bike rental data, weather conditions, day of the week, and any other relevant factors.

Training Process:

Explain how the algorithm is trained using historical data. Highlight any specific considerations or techniques employed, such as cross-validation or hyperparameter tuning.

Prediction Process:

Detail how the trained algorithm makes predictions for future bike counts. Discuss any real-time data inputs considered during the prediction phase.

RESULT

Present the results of the machine learning model in terms of its accuracy and effectiveness in predicting bike counts. Include visualizations and comparisons between predicted and actual counts to highlight the model's performance.

CONCLUSION

Summarize the findings and discuss the effectiveness of the proposed solution. Highlight any challenges encountered during the implementation and potential improvements. Emphasize the importance of accurate bike count predictions for ensuring a stable supply of rental bikes in urban areas.

REFERENCES

List and cite relevant sources, research papers, and articles that were instrumental in developing the proposed solution. This could include academic papers on bike demand prediction, machine learning algorithms, and best practices in data preprocessing and model evaluation.

IBM CERTIFICATIONS

Getting started with AI



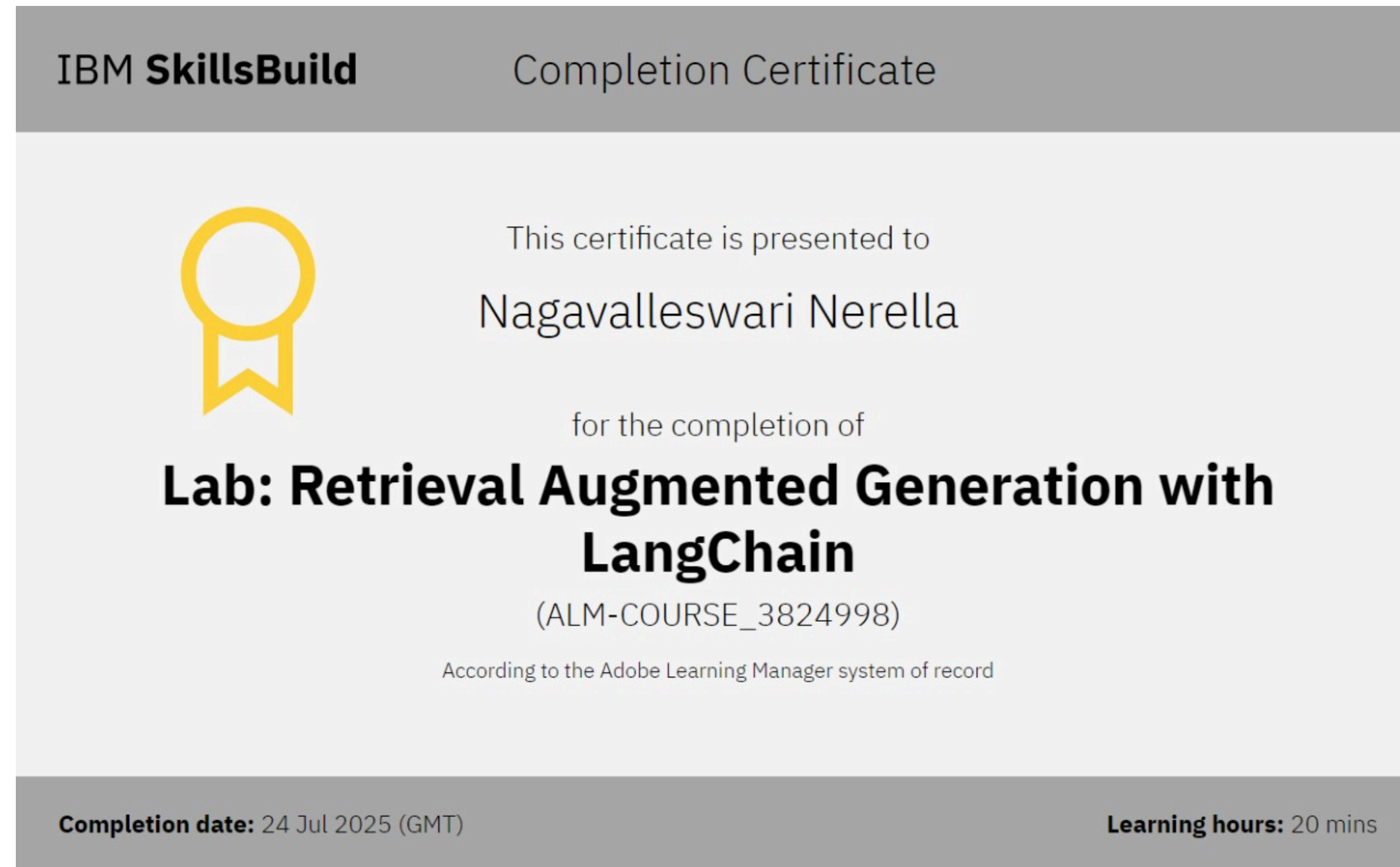
IBM CERTIFICATIONS

Journey To Cloud



IBM CERTIFICATIONS

RAG Lab



Thank

You