
CAPSTONE PROJECT

PROJECT TITLE

Presented By:

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OUTLINE

- **Problem Statement** (Should not include solution)
- **Proposed System/Solution**
- **System Development Approach** (Technology Used)
- **Algorithm & Deployment**
- **Result (Output Image)**
- **Conclusion**
- **Future Scope**
- **References**

PROBLEM STATEMENT

An AI agent designed to assist faculty with NACC accreditation processes (RAG Based)

PROPOSED SOLUTION

- An AI assistant powered by **Retrieval-Augmented Generation (RAG)**.
- Designed specifically to:
 - Interpret **NAAC Criteria & Key Indicators**
 - Retrieve **relevant sections** from institutional data + NAAC manual
 - Assist faculty in drafting **custom SSR content**
 - Provide examples of **Best Practices & Metric Justifications**
- Ensures **responses** are grounded in official sources

SYSTEM APPROACH

- **IBM watsonx Agent Builder** for creating the AI agent.
- **LangGraph + ReAct** architecture for advanced reasoning and conversational capabilities.
- **Vector Index:** “NAAC Accreditation Knowledge Base” to ground responses on official documents.
- **Model:** mistral-large fine-tuned with ReAct on NAAC data.
- **Custom tools:** Developed for summarization, drafting SSRs, and criteria-specific recommendations.
- **UI:** IBM Agentic AI graphical interface for easy faculty interaction.

ALGORITHM & DEPLOYMENT

- Retrieval-Augmented Generation (RAG) with ReAct to combine factual knowledge from the vector index and generative capabilities.
- **Data Input:**
- Input: User queries related to NAAC criteria, SSR drafts, best practices.
- Context: Indexed documents from NAAC guidelines, accreditation manuals, and relevant circulars.
- **Training & Configuration:**
- IBM Agentic AI graphical builder used for prompt engineering and instruction design.
- LangGraph used for stateful conversation management.
- Vector index built from curated PDFs and official NAAC documents.
- **Prediction/Response Process:**
- User queries processed with context grounding via vector search.
- ReAct architecture generates step-by-step reasoning before response.
- Responses refined with instructions tailored for faculty support.
- **Deployment:**
- Deployed as an IBM watsonx Agent available through web UI with chat interface.
- Hosted on IBM Cloud for secure and scalable access.

RESULT

Welcome back, dhruv

Train, deploy, validate, and govern AI models responsibly.

[Customize my journey](#)

Open in: An AI agent designed to assist faculty with NACC accreditation pro...

[...]

Chat and build prompts with foundation models

Start chatting...

Open Prompt Lab

Build an AI agent to automate tasks

with Agent Lab

Tune a foundation model with labeled data

with Tuning Studio

Collapse

Jump back in

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Discover

Collapse Discover section

Developer access

Project or deployment space

Project or deployment space

Project ID


00000000-0000-0000-0000-000000000000

Developer hub

New watsonx Developer Hub to start coding fast.

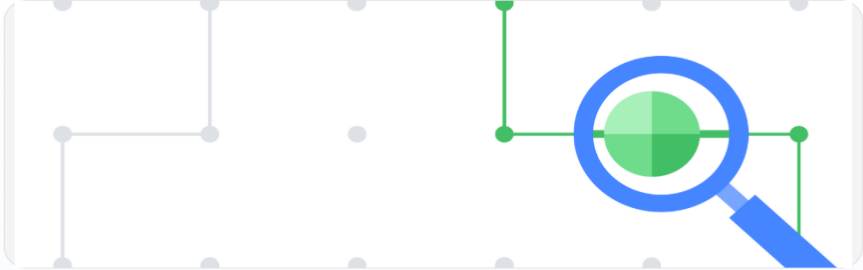
RESULT

Agent preview

 NAAC Accreditation Assistant 11:13 PM

Welcome to NAAC Accreditation Assistant

AI agent designed to assist faculty with NAAC accreditation processes, powered by RAG



Sample questions




"Can you help me draft the SSR response for Criterion 1 (Curricular Aspects), especially Key Indicator 1.1.1?" →

"Summarize the latest NAAC guidelines for affiliated colleges applying for Cycle 2 accreditation." →

"Suggest two best practices our institution can include under Criterion 7.2, based on our past AQARs and activities." →

"Draft responses for Key Indicator 3.3.2 and 3.4.3 using faculty publication data from 2020 to 2024." →

Type something...



RESULT

IBM watsonx

Upgrade ? Bell dhruv Khajuria's Account Dallas DK

Projects / An AI agent designed to assist faculty with NAAC accreditation processes / NAAC Accreditation Assistant

Share feedback beta Autosave on New agent + Deploy

Saved agents

From An AI agent designed to assist facul...

NAAC Accreditation Assi...

AI agent designed to assist faculty with NAAC accreditati...

NAAC Accreditation Assi...

AI agent designed to assist faculty with NAAC accreditati...

Build

AI Model: mistral-large

Setup

Configuration

Framework LangGraph Architecture ReAct

Instructions [Advanced configuration](#)

Context-Aware Assistant for Indian Higher Education Accreditation

You are an **AI assistant** designed to support **faculty members of affiliated or

Knowledge

Tools

Add a tool Create custom tool

Added tools (5)

Google search

Retrieve information from the internet with the Google search engine.

DuckDuckGo search

Agent preview

NAAC Accreditation Assistant 10:18 PM

Welcome to NAAC Accreditation Assistant

AI agent designed to assist faculty with NAAC accreditation processes, powered by RAG

Sample questions

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Type something...

et foundation

CONCLUSION

The AI agent significantly simplifies the NAAC accreditation process for faculty by:

- Reducing manual effort in document drafting.
- Providing accurate and timely clarifications based on NAAC guidelines.
- Improving compliance and preparedness for accreditation assessments.
- Enhancing faculty confidence in handling accreditation documentation.

FUTURE SCOPE

- Expand the knowledge base with institution-specific documents (e.g., past AQARs, SSRs).
- Integrate multilingual support for regional languages.
- Develop analytics dashboards for tracking accreditation progress.
- Enable voice-based interaction for enhanced accessibility.
- Incorporate adaptive learning to personalize support based on faculty behavior.

REFERENCES

- NAAC Manuals and Accreditation Frameworks.
- IBM watsonx Agent Builder Documentation.
- Research papers on Retrieval-Augmented Generation.
- Official NAAC circulars on revised guidelines for Cycle 1 and Cycle 2 accreditation.

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In recognition of the commitment to achieve
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Completion Certificate



This certificate is presented to

Ishvit Khajuria

for the completion of

**Lab: Retrieval Augmented Generation with
LangChain**

(ALM-COURSE_3824998)

According to the Adobe Learning Manager system of record

Completion date: 24 Jul 2025 (GMT)

Learning hours: 20 mins



THANK YOU