
CAPSTONE PROJECT

STARTUP BLUEPRINT AI

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

Many aspiring entrepreneurs have startup ideas but face difficulties turning those ideas into real businesses due to a lack of guidance, resources, and access to reliable information. They often struggle with market research, competitor analysis, funding options, legal procedures, and go-to-market planning.

PROPOSED SOLUTION

To address these challenges, we propose an AI-powered **Startup Blueprint Generator Agent** that uses **Retrieval-Augmented Generation (RAG)** to transform simple startup ideas into complete and structured business blueprints. The agent will retrieve and integrate relevant information from trusted sources such as startup portals, incubator databases, government policy documents, and funding directories. It will generate a detailed plan that includes elements like the business model, market research, budget estimates, go-to-market strategy, legal requirements, and potential funding options. This solution will provide users with clear, personalized guidance to accelerate the journey from idea to implementation

SYSTEM APPROACH

- The implementation of the Startup Blueprint Generator Agent involves a combination of hardware, software, and cloud-based infrastructure. The development environment requires a laptop or desktop computer with a minimum of 16 GB RAM, a modern multi-core processor such as Intel i5 or AMD Ryzen 5, and at least 512 GB of SSD storage to efficiently handle local testing and processing tasks. A GPU is optional but beneficial for accelerating AI model inference and fine-tuning during development.
- For deployment, the system will utilize IBM Cloud services. An IBM Cloud account will be used to host the application components, including backend services, storage, and databases. IBM Watson may be leveraged for natural language processing tasks, while IBM Cloud Object Storage will store retrieved documents, datasets, and user-generated blueprints. The backend logic, built using Python (Flask or FastAPI), will be deployed through IBM Cloud Functions or Kubernetes for scalability and modularization. Databases such as IBM Cloudant (NoSQL) or PostgreSQL (SQL) will be used to manage user data, generated outputs, and system metadata.
- The application will use a Retrieval-Augmented Generation (RAG) architecture, combining language models (e.g., from Hugging Face) with vector databases like FAISS or Pinecone to retrieve relevant documents from startup portals, incubator resources, and policy documents. These documents are then passed to the language model to generate the final business blueprint. External APIs will be integrated to fetch real-time data on funding options, competitors, market trends, and government schemes.

ALGORITHM & DEPLOYMENT


- The algorithm for the Startup Blueprint Generator Agent begins with the user submitting a simple, natural language description of their startup idea through a web interface. This input is first preprocessed to clean and extract key information using natural language understanding capabilities powered by IBM Granite foundation models. Once the idea is understood, the system performs a retrieval step where it searches relevant databases, including startup portals, government policy documents, incubator resources, and funding directories, by using vector similarity search to find documents most relevant to the user's input. These retrieved documents, combined with the original user input, create an augmented context that is then passed to the language generation model. The model generates a comprehensive, structured business blueprint, including the business model canvas, estimated budget, competitor analysis, legal requirements, and go-to-market strategies. The output is then post-processed into a user-friendly report that can be displayed on the web interface or downloaded.
- For deployment, the entire system is containerized using Docker and hosted on IBM Cloud Lite infrastructure. The backend services, including the API that manages input processing, retrieval, and generation, are deployed on IBM Cloud Kubernetes Service or IBM Code Engine to ensure scalability and flexibility. The frontend web interface is hosted using IBM Cloud Foundry or IBM Cloud Object Storage with static website hosting capabilities. IBM Granite models are accessed via IBM Cloud AI service APIs to handle natural language understanding and generation tasks. Data storage for retrieved documents and generated outputs is managed through IBM Cloud Object Storage and IBM Cloudant databases for structured data. Security is enforced using IBM Cloud IAM for user authentication and authorization. A continuous integration and deployment pipeline is established through IBM Cloud DevOps Toolchain, enabling seamless updates and maintenance. Monitoring tools available on IBM Cloud oversee system health and performance, ensuring reliability and smooth operation.

RESULT

The screenshot displays the IBM watsonx Agent Lab interface. The browser address bar shows the URL: `dataplatfom.cloud.ibm.com/wx/agents?context=wx&project_id=5b7d633f-c023-44b7-b01d-ad30cd8f0c94`. The page header includes the IBM watsonx logo, an 'Upgrade' button, a help icon, a notification bell, and user information for 'Sridarsh Anand's Account' in 'Dallas'.


The main interface is divided into two panels:


- Build Panel:** This panel is used to configure the agent. It includes a 'Setup' section, a 'Configuration' section with dropdowns for 'Framework' (set to 'LangGraph') and 'Architecture' (set to 'ReAct'), and an 'Instructions' section. The instructions text is: "You are a Startup Blueprint Generator Agent. Your role is to help aspiring entrepreneurs turn raw startup ideas into fully structured, actionable business blueprints. When a user shares an idea in simple words, you will: Retrieve relevant information (market trends, competitors, funding, legal...". There is also a 'Knowledge' section at the bottom.
- Agent preview Panel:** This panel shows a preview of the agent's interface. It displays a welcome message: "Welcome to watsonx Agent" and a prompt: "Change this description to reflect your particular agent". Below the text is a diagram of a graph structure with a magnifying glass icon. At the bottom, there is a text input field labeled "Type something..." and a send button.





Build

AI


Model: granite-3-3-8b-instruct 








Setup





Configuration



Framework

Architecture

LangGraph 

ReAct 

Instructions


[Advanced configuration](#)

You are a Startup Blueprint Generator Agent. Your role is to help aspiring entrepreneurs turn raw startup ideas into fully structured, actionable business blueprints.


When a user shares an idea in simple words, you will:

Retrieve relevant information (market trends, competitors, funding, legal


Knowledge



Agent preview

 You: 07:08 PM

give a plan for online fast delivery for medicine,food in which many shops can benifit


 Startup blueprint AI 07:08 PM


◆ 1. Business Model Canvas

Problem:

- Lack of efficient online platforms for fast delivery of essential items like medicine and food.
- Inconvenience for customers due to multiple apps/websites for different services.

Solution:





edunet

foundation

Startup blueprint AI Deployed Online

API reference

Test

Preview

New chat +



You 07:20 PM

give an blueprint for my online delivery of medicine,food which can benefit small shops also



Startup blueprint AI 07:20 PM

◆ Business Model Canvas

Problem: Small shops, especially pharmacies and grocery stores, struggle with reaching a wider customer base and competing with large e-commerce platforms. They also face logistical challenges in delivering products efficiently.

Solution: An online delivery platform that aggregates inventory from small local shops, offering a wide variety of medicines and

Type something...





Startup blueprint AI ✓ Deployed Online

[API reference](#)[Test](#)[Preview](#)[New chat +](#)

- "Can you specify the target geographical regions for the initial launch?"
- "Are there particular types of medicines or food items you want to prioritize?"
- "Do you have any existing partnerships with local shops or delivery service providers?"

This structured blueprint will help you kickstart your online delivery platform for medicines and food, supporting small local shops while addressing consumer needs for convenience and variety.

► **How did I get this answer?**



CONCLUSION

- The **Startup Blueprint AI** provides an end-to-end solution for aspiring entrepreneurs to quickly transform their raw ideas into actionable, well-structured business blueprints. By combining the power of IBM Granite foundation models with intelligent document retrieval and cloud-native deployment on IBM Cloud, the system ensures scalability, efficiency, and accessibility. With secure infrastructure, continuous integration pipelines, and a user-friendly interface, it delivers a seamless experience—from idea submission to strategic business planning—empowering users to confidently take the next steps in their startup journey.

FUTURE SCOPE

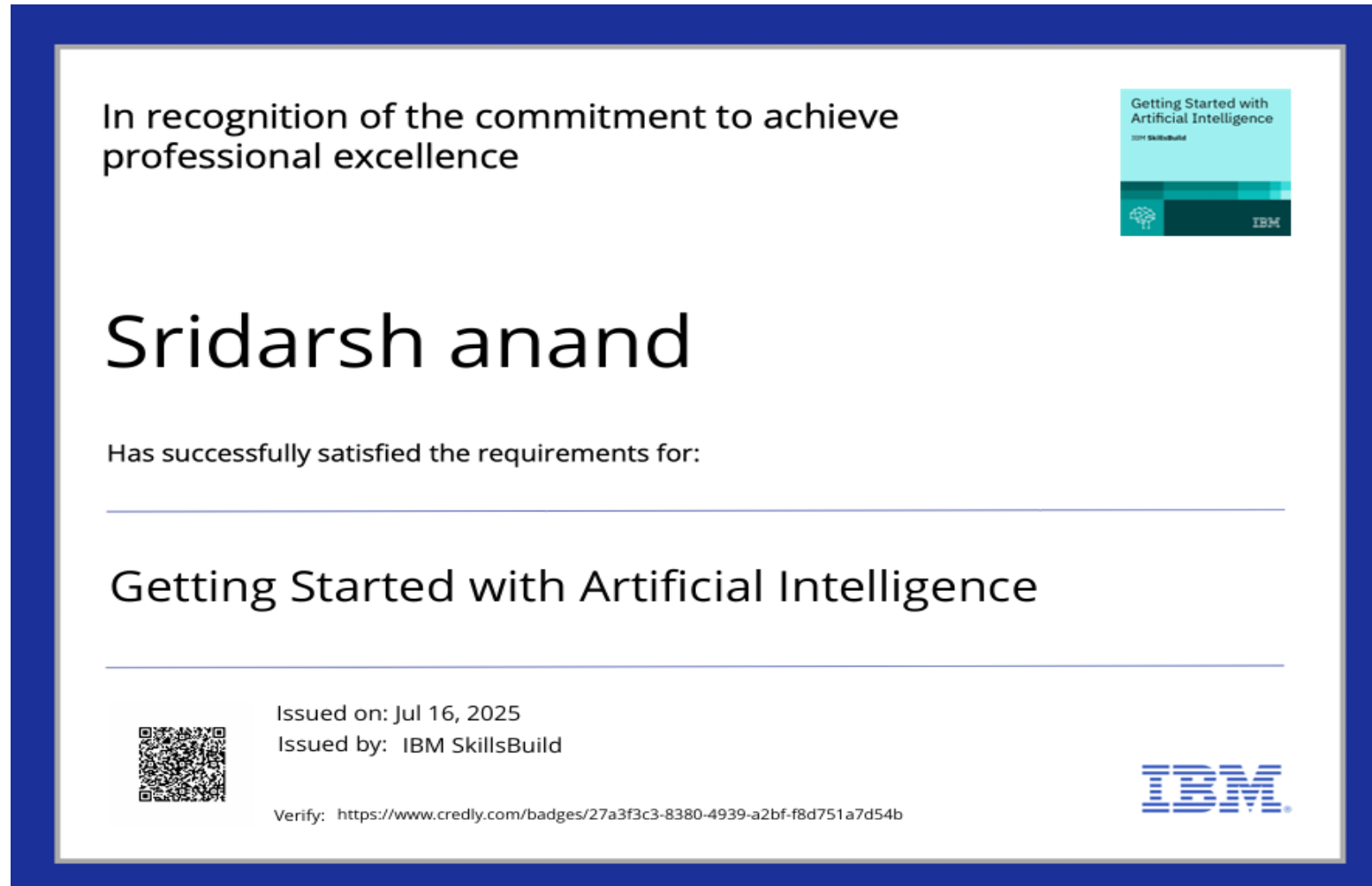
- The future scope of the Startup Blueprint Generator Agent involves expanding its capabilities to offer a more personalized, intelligent, and accessible experience for aspiring entrepreneurs. A key direction is adding multilingual and regional support, enabling the system to generate business blueprints tailored to local regulations, languages, and market conditions.
- The platform could also include AI-powered investor matchmaking, automatically connecting users with relevant investors or incubators based on the nature of their startup ideas. A dynamic regulatory compliance checker may be introduced, keeping users informed about legal requirements as policies evolve.
- Enhancements to the user interface could allow for interactive editing of blueprint components like budgets or business models, giving users more control and customization. Integration with live market data APIs would further improve the accuracy of competitor analysis and go-to-market strategies.
- To support users beyond the initial blueprint, the system could recommend relevant resources such as legal templates, funding programs, or startup guides. A mobile version would offer on-the-go access, while collaboration features like team workspaces and community discussions could foster peer engagement.
- In the long term, predictive analytics using historical startup data could help evaluate the viability of user-submitted ideas, providing insights into success potential. These future enhancements would help evolve the platform into a comprehensive, intelligent support system for early-stage startups.

REFERENCES

- IBM (2023). *IBM Granite Foundation Models*. Available at: <https://research.ibm.com>
- Pinecone. *Understanding Vector Similarity Search*. Available at: <https://www.pinecone.io>
- Edunet Foundation. *AI and Cloud Integration for Scalable Applications*. Available at: <https://edunetfoundation.org>
- Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation*. Wiley.
- IBM Cloud Docs. *Deploying with Code Engine and Kubernetes Service*. Available at: <https://cloud.ibm.com/docs>

IBM CERTIFICATIONS

Screenshot/ credly certificate(getting started with AI)



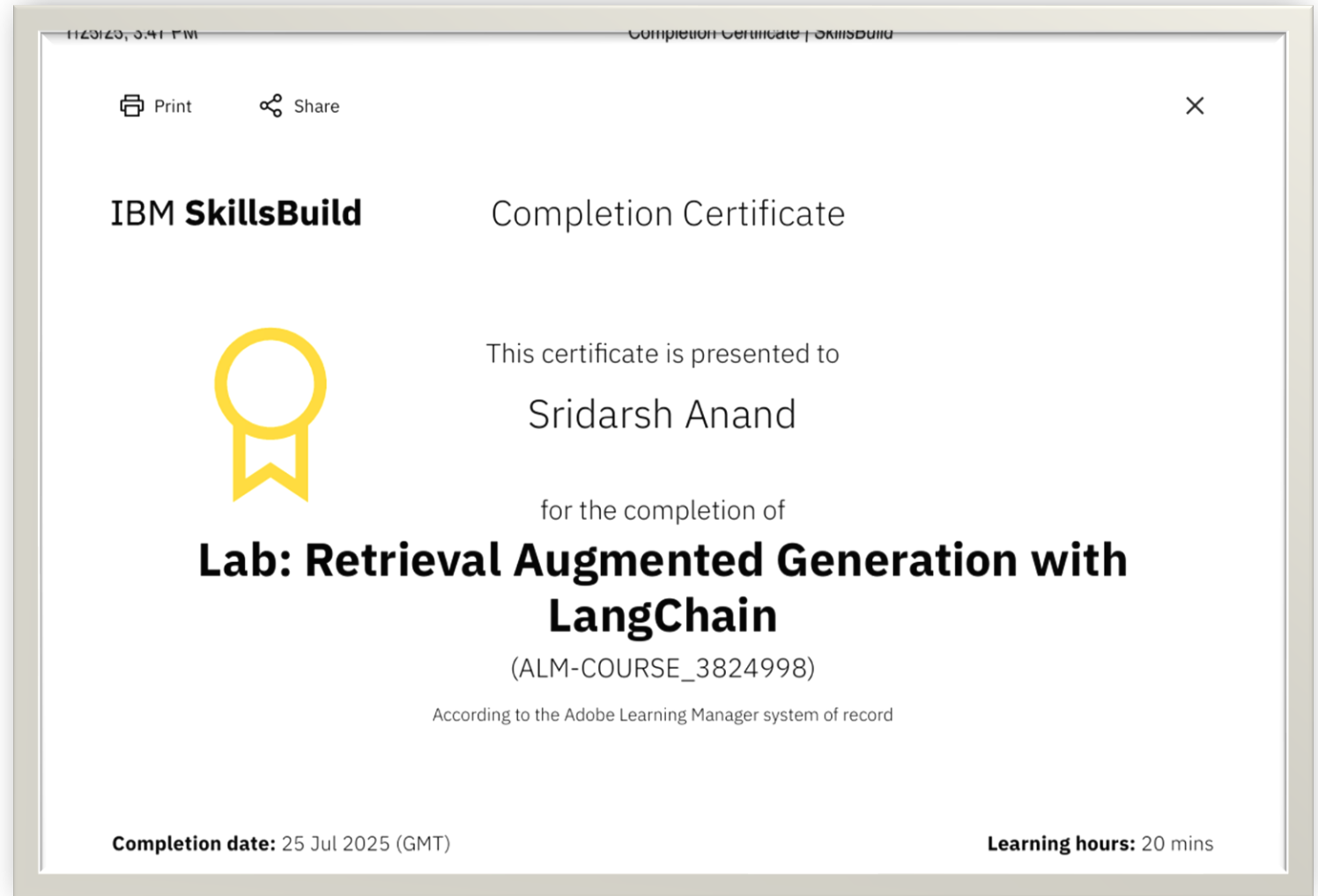
IBM CERTIFICATIONS

- Screenshot/ credly certificate(Journey to Cloud)



IBM CERTIFICATIONS

- Screenshot/ credly certificate(RAG Lab)





THANK YOU