PROJECT TITLE

CAPSTONE PROJECT

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ITER BUHBANESWAR

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

Students often struggle to make informed career decisions due to fragmented guidance, limited self-awareness of strengths, and a fast-changing job market. Traditional counseling methods lack personalization and scalability, leading to mismatched career paths and missed opportunities.

There is a need for a system that autonomously tracks student data and industry trends to provide accurate, real-time career guidance with minimal human intervention.

PROPOSED SOLUTION

The proposed solution is an intelligent autonomous agent that provides dynamic career counseling using the following features:

- Real-time monitoring of academic performance, interests, and behavior.
- Integration of job market trends using APIs.
- Personalized career path recommendations.
- Minimal manual dependency through automation and AI.
- Scalable cloud deployment using IBM Cloud Lite / Granite foundation models.

SYSTEM DEVELOPMENT APPROACH

- Frontend: ReactJS / HTML + CSS (Dashboard)
- Backend: Flask or Node.js for API endpoints
- AI/NLP: IBM Granite foundation models for reasoning and decision making
- Storage: IBM Cloudant / IBM Object Storage
- Deployment: IBM Code Engine or Container Registry (free tier)
- Integration: Skill analysis via surveys, resume parsing, and academic data

ALGORITHM & DEPLOYMENT

- Algorithm: Decision Tree / Rule-Based Engine + IBM Granite
- Input: Academic grades, skill ratings, interest forms, job trends from API
- Training: Pattern mining from previous student success + static logic rules
- Prediction: IBM model classifies ideal domains based on matching patterns
- Deployment: Backend on IBM Cloud Code Engine, accessed via REST APIs

RESULT

The system suggests top 3 career pathways based on input profile.

Sample Output:

- Student A: Data Scientist, Business Analyst, AI Researcher
- Student B: UX Designer, Product Manager, Tech Consultant

[Include mock dashboard or flowchart image if available]

CONCLUSION

The system successfully automates career guidance using AI and IBM technologies.

It minimizes manual intervention and enhances accuracy by analyzing dynamic personal and labor market data.

Challenges: Mapping domain-specific interests, integrating multiple APIs.

Improvements: More granular interest detection, multi-language support.

FUTURE SCOPE

- Add support for regional languages
- Integrate internship/job portals like LinkedIn, Internshala
- Mobile App version using React Native
- Include feedback loop for model improvement
- Add personality and psychometric testing

REFERENCES

- IBM Granite Foundation Models Documentation
- Career Guidance Research Papers
- Labor Market APIs (e.g. LinkedIn, RapidAPI)
- IBM Cloud Documentation

IBM CERTIFICATIONS

Include screenshots of:

- Getting Started with AI

- Journey to Cloud

- RAG Lab

THANK YOU

Thank you for your time!

Q&A

In recognition of the commitment to achieve professional excellence

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Getting Started with Artificial Intelligence

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According to the Adobe Learning Manager system of record

Completion date: 25 Jul 2025 (GMT)

Learning hours: 20 mins