AI for Bharat Hackathon

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Team Name : AI Visionaries – Career Mentor Bharat

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Problem Statement : Bridging the Career Guidance Gap in Bharat

Brief about the Idea:

AI Career Mentor for Bharat is an AI-powered, cloud-based career guidance platform designed to bridge the mentorship gap for students in Tier-2 and Tier-3 cities across India. The solution leverages Natural Language Processing (NLP) and Generative AI to provide intelligent resume analysis, personalized career path recommendations, AI-driven mock interviews, and skill-gap detection. Unlike traditional job portals or generic career websites, this platform delivers real-time, adaptive, and personalized mentoring tailored to each student's skills, interests, and career goals. Built on scalable infrastructure powered by Amazon Web Services, the system ensures secure data handling, high availability, and nationwide scalability. By combining AI intelligence with accessible cloud technology, the platform aims to improve placement readiness, enhance student confidence, reduce career inequality, and provide affordable 24/7 digital mentorship. The vision of this solution is to ensure that a student's professional growth is not limited by geography but through intelligent technology**.**
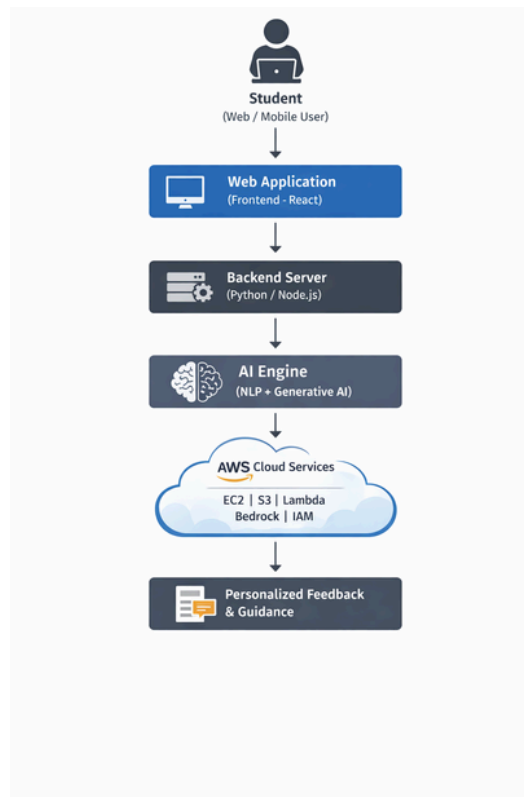
Proposed Solution

The proposed AI Career Mentor for Bharat stands out from existing career platforms by offering a fully integrated, AI-driven mentorship system rather than just job listings or static career advice. Unlike traditional portals, this solution provides personalized resume analysis, AI-powered mock interviews, skill-gap detection, and tailored career path recommendations within a single unified platform. The system addresses the core problem of limited mentorship access in Tier-2 and Tier-3 cities by delivering real-time, adaptive guidance using Natural Language Processing and Generative AI. Built on scalable infrastructure powered by Amazon Web Services, the platform ensures secure, cloud-native deployment capable of supporting large-scale adoption across colleges and institutions. The unique selling proposition (USP) of this solution lies in its ability to function as a 24/7 AI mentor that is personalized, affordable, scalable, and specifically designed to bridge the metro–rural career opportunity gap in Bharat.
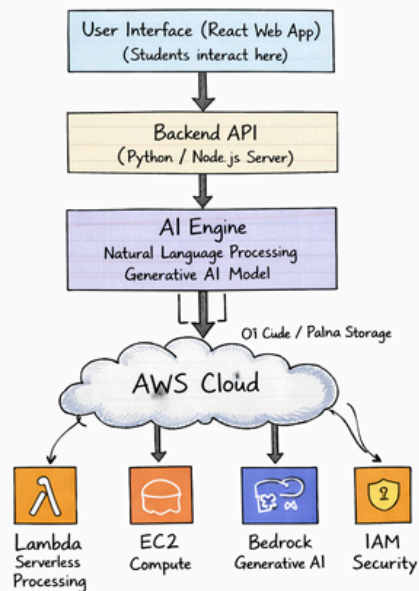
List of Features Offered

- AI Resume Analyzer **–** Uses NLP to parse resumes, identify weaknesses, optimize keywords, and provide role-specific improvement suggestions.
- Career Path Recommendation Engine – Analyzes student skills and interests to suggest suitable career roles and emerging opportunities aligned with industry demand.
- AI-Based Mock Interview Simulator – Generates role-based interview questions, evaluates responses using AI, and provides structured feedback to improve confidence and clarity.
- Skill Gap Detection Module – Compares current skill set with job requirements and identifies missing competencies required for targeted roles.
- Personalized Learning Roadmap – Recommends curated courses, certifications, and skill development paths tailored to individual career goals.
- Cloud-Based Secure Storage – Stores user data securely with encryption and access control mechanisms to ensure privacy and reliability.
- Scalable AWS Infrastructure – Built on Amazon Web Services using EC2, S3, Lambda, and Bedrock to ensure high availability, scalability and cost efficiency

Process flow diagram or Use-case diagram

Architecture diagram of the proposed solution:

Technologies to be used in the solution:

- Frontend: React
Used to build a responsive and user-friendly web interface that allows students to upload resumes, attend mock interviews, and view personalized career insights.
- Backend: Python / Node.js
Handles API requests, user authentication, resume processing, and communication between the frontend and AI services.
- Database: Cloud Storage
Secure cloud-based storage to manage user data, resumes, interview feedback, and learning progress efficiently.
- AI: NLP, Generative AI
Natural Language Processing is used for resume analysis and skill extraction, while Generative AI provides personalized career recommendations and mock interview feedback.
- Cloud: AWS (EC2, S3, Lambda, Bedrock, IAM)
Powered by Amazon Web sevices for scalable and secure deployment

Estimated implementation cost (optional):

- AWS Cloud Hosting **(**Initial Stage)**:** Minimal – During the early development and testing phase, the project can leverage AWS Free Tier credits, which cover essential services such as EC2, S3, and RDS. This allows deployment without significant upfront expenses.
- Development Cost: Primarily student project-based – The development work is carried out by students, which significantly reduces labor costs. Additional expenses may include software tools or libraries if required.
- Scaling Cost: Pay-as-you-go cloud model – As the project grows and usage increases, AWS's pay-as-you-go model ensures that costs scale proportionally with resource consumption, allowing for flexible budget management. Optional monitoring tools may add minor incremental costs for performance tracking and optimization**.**

Add as per the requirements for the hackathon:

- Future Scope & Enhancements

Integrate AI/ML features for smarter recommendations or predictions.

Add a mobile version to reach more users.

Implement analytics dashboard for better insights.

Include performance optimization and advanced cloud monitoring as the project grows.

- Special Notes / Compliance

Designed to follow hackathon guidelines and submission requirements.

Data privacy and security ensured using cloud-native best practices.

Fully built using open-source tools and libraries with proper attribution.

- Impact & Value

Provides a scalable, user-friendly solution for the target problem.

Demonstrates innovation, problem-solving, and end-to-end project development by a single developer.

Ready for further expansion or real-world deployment.