# **Feasibility Report: Resume Screening System using LLMs**

## **1. Technical Feasibility**

* System Requirements: Cloud-based infrastructure (AWS/Azure/GCP), APIs for LLMs (OpenAI, Hugging Face), and resume parsing libraries (spaCy, PyMuPDF).
* Core Features: Resume parsing (PDF/DOCX → text), skill extraction, job-resume semantic matching, ranking candidates, recruiter dashboard.
* Scalability: Easily scales with cloud hosting; microservices allow modular deployment.
* Reliability: NLP pipelines ensure accuracy even for unstructured resumes.  
   Conclusion: Technically feasible with current AI and NLP advancements.

**2. Managerial Feasibility**

* Project Management: Agile methodology for iterative development (sprints for parsing, LLM integration, UI).
* Human Resources: A team of developers, ML engineers, and UI/UX designers can handle development.
* Risk Management: Clear roadmap and fallback to rule-based models if LLMs are too costly or inaccurate.  
   Conclusion: Managers can oversee and guide implementation effectively.

**3. Economic Feasibility**

* Development Costs: Mostly open-source tools; team salaries are the primary expense.
* Operational Costs: API usage fees, cloud hosting, and maintenance.
* Savings: Cuts recruiter workload by approximately 70 percent, reduces HR overhead.  
   Conclusion: Economically viable with clear cost-saving benefits.

**4. Financial Feasibility**

* Investment Required: Initial setup estimated at $5,000–$15,000 for a small-scale MVP; higher for enterprise-level.
* Revenue Model:
  + Subscription for recruiters (tiered pricing).
  + Pay-per-resume-screening for SMEs.
  + Integration services for large enterprises.
* Return on Investment (ROI): High ROI since cost per screening is much lower than manual HR costs.  
   Conclusion: Financially feasible with strong business potential.

## **5. Cultural Feasibility**

* Workplace Culture: Encourages data-driven hiring instead of subjective biases.
* Candidate Perception: Viewed as a modern, fair, and efficient system if transparency is ensured.
* Global Adaptability: Can adapt to different countries’ resume formats and hiring norms.  
   Conclusion: Culturally feasible if designed with inclusivity and fairness in mind.

## **6. Social Feasibility**

* Impact on Recruiters: Reduces repetitive screening work, allowing HR to focus on human interaction.
* Impact on Job Seekers: Increases fairness by emphasizing skills over keywords, reduces discrimination if bias controls are implemented.
* Public Acceptance: Positive if AI decisions remain explainable and transparent.  
   Conclusion: Socially acceptable and beneficial, provided fairness is maintained.

## **7. Safety Feasibility**

* Data Security: Candidate resumes contain sensitive personal data; encryption and GDPR compliance required.
* System Safety: Secure APIs, authentication, and access control to prevent misuse.
* Ethical Safety: Mitigate algorithmic bias to prevent unfair exclusions.  
   Conclusion: Safe to implement with proper cybersecurity and ethical AI practices.

## **8. Political Feasibility**

* Regulatory Compliance: Must follow labor laws, anti-discrimination acts, and data protection laws (GDPR, CCPA).
* Government Acceptance: Governments increasingly promote AI adoption; the system aligns with digital transformation policies.
* Risk: Over-regulation of AI could impact long-term use, but explainability and compliance will help.  
   Conclusion: Politically feasible, provided legal and ethical guidelines are followed.

## **Conclusion**

The Resume Screening System using LLMs is feasible across technical, managerial, economic, financial, cultural, social, safety, and political dimensions. With proper planning, security measures, and transparency, the project can deliver significant value to recruiters while being widely accepted by organizations and candidates alike.

A screenshot of a computer

AI-generated content may be incorrect.

Fig 1- Gantt Chart