

Application of RAG (Retrieval-Augmented Generation) in AI-Driven Resume Analysis and Job Matching

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Abstract: *The research introduces JobMatchr as a web-based artificial intelligence-powered system which automatizes recruitment monitoring by analyzing resumes using job descriptions. The system resolves vital recruitment issues regarding efficient candidate-job matching within the current competitive job market. JobMatchr ensures resume analysis by applying natural language processing technicalities together with vector embeddings and large language models to identify candidate-job requirements alignment through essential qualifications detection. JobMatchr achieves complete resume analysis and job recommendation functionality through its deployment of Flask as backend framework and implementation of LangChain alongside Gemini-2.0-flash model and Google's embedding technology. The experimental outcomes prove this solution improves recruitment performance by cutting man-powered screening time and resulting in superior candidate-job matches*

Keywords: Resume Analysis, Job Recommendation System, Artificial Intelligence, Natural Language Processing, LangChain, Retrieval Augmented Generation(RAG)

