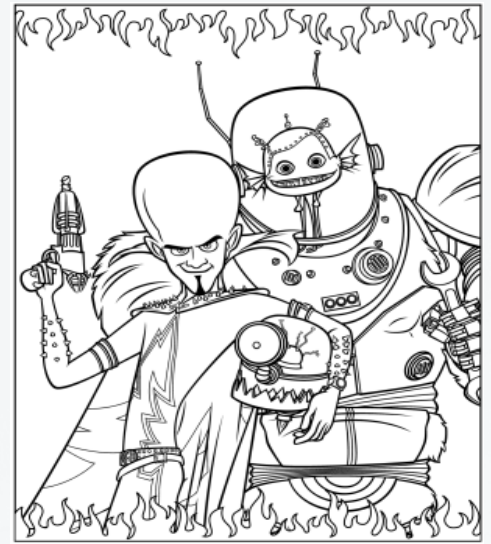# SMARTHIRE
Intelligent Resume Evaluation

By Team

AI MegaMind

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Industry and Impact

The industry we're focusing on is the Employment and Job Market.

SMARTHIRE will be a great value addition to job seekers and employers as it provides insights, feedback and a relevance percentage.

The manual process is time consuming and given the volume of applications, it is not feasible for evaluating all profiles.

PROJECT OVERVIEW

SmartHire aims to help in the applicant qualification process for career services. By integrating Prompt engineering and the RAG system, we implemented keyword extraction from resumes and provide intuitive cues for candidate suitability. This system addresses the time-consuming nature of manual screening and enhances efficiency, ultimately transforming how career services assess applicant qualifications and improve success rates for applicants in securing job opportunities.

LITERATURE REVIEW

- Enhanced Resume Parsing with RAG:
  - Retrieval-Augmented Generation models, as discussed in "Retrieval-Augmented Generation for Large Language Models: A Survey," enable more nuanced analysis by incorporating external data sources during the resume screening process.

- Prompt Engineering for Effective AI Interaction:
  - Effective prompt engineering is critical for tailoring AI responses in customer service and recruitment, ensuring AI systems deliver relevant and context-aware information.
- Ethical and Bias Considerations in AI:
  - The integration of AI in professional settings raises important ethical issues, including the management of data privacy and the mitigation of biases in automated systems.

BUSINESS OPPORTUNITIES

The integration of GenAI into career services automates tasks and personalized guidance, enhancing efficiency for students and counselors.

SmartHire transforms college career services, streamlining processes and empowering counselors for enhanced efficacy.
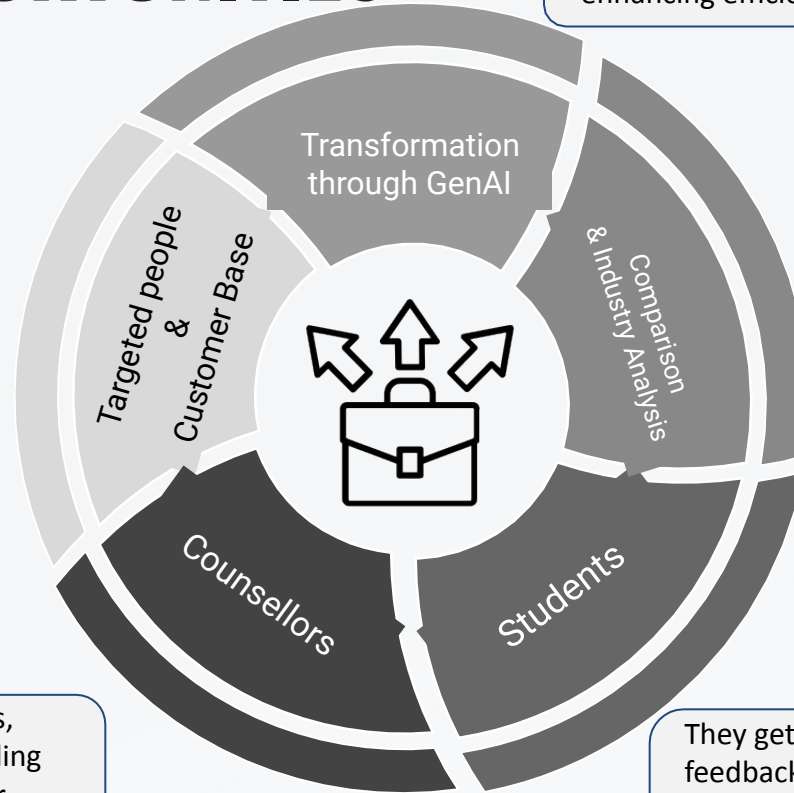
SmartHire introduces advanced AI to education, bridging the gap in career services with GenAI's proven efficiency in other sectors.

Transformation through GenAI

Targeted people & Customer Base

Comparison & Industry Analysis

Counsellors

Students

AI aids counselors by automating tasks, enabling focused coaching, and providing insights on job market trends to better advise students.

They get personalized resume feedback, job recommendations, and interview preparation, all from AI's analysis of vast employment data and trends.

UTILIZING GenAI

Enhanced Automation

Improved Accuracy and Efficiency

Effective Decision-Making

Personalization -Customizable Criteria

BUSINESS VALUES

Improved Efficiency

Candidate Quality

Data Driven Insights

Cost Savings

Competitive Advantage

BUSINESS STRATEGIES

- Collaborate with colleges and universities to offer the solution as part of their career services.
- Ensure technical readiness and staff training to leverage GenAI in resume evaluation,, enhancing recruitment accuracy and market insight.

- Offer data analytics services to colleges and universities to provide insights into trends and patterns in applicant qualifications.
- Ensure that the platform adheres to ethical guidelines and data privacy regulations.

Regulatory Challenges And Barriers
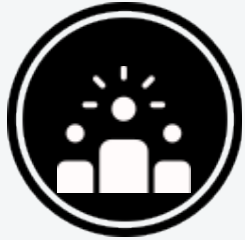
- Data Privacy and Protection Laws - GDPR in Europe, CCPA in California
- Compliance with AI Ethics and Fairness Standards
- Intellectual Property Concerns
- Cross-Border Data Flow Restrictions

Model Optimization and Process

Integration with OpenAI

Data, Text Processing and Data Retrieval

RAG Framework

Resume Evaluation Process with Prompt Engineering

Interaction with LLM using RAG Queries

Technical Implementation

- Resumes are pulled from google drive.

- Job description and prompts(customizable) to evaluate are given as input to the application.

- Evaluation output – percentage match, missing keywords, enhancement tips, irrelevant content and highlights of key skills.

- Sample interview questions are provided by using RAG query.

- RAG queries provide additional information to the users.

Sample Implementation - Prompt

- **Primary Prompt – Calculate the percentage of match between the resume and the job description**

Output: The resume aligns with the job description at approximately 70%. While the candidate has relevant experience in programming languages and software development, there are some key qualifications and experiences missing that could enhance their fit for the Software Engineering Intern position at Apple.

Sample Implementation - RAG

- **RAG Query – What job roles can I target with skills: {key_skills}**

Output: Based on the skills mentioned (proficiency in Swift, Objective-C, experience with Xcode and Git, and knowledge of software design principles), you could target job roles such as iOS Developer Team Leader at Apple, Software Developer at Amazon, or Software Development Vice President at Cognizant. These positions require expertise in iOS development, software design principles, and experience with version control systems like Git.

Critical Success Factors

- **Accuracy of Matching Algorithm – to successfully aligning candidates for a job**
- **Effective Student Engagement**

Fairness and Bias Mitigation

Historical Bias
- Past biases in hiring practices or training data may influence the AI models, perpetuating systemic inequalities.
- Certain groups may be unfairly favored or disadvantaged based on biased historical data, leading to inequitable candidate evaluations.

Algorithmic Bias
- Bias introduced during algorithm development or implementation can result in inaccurate or unfair candidate evaluations.
- Qualified candidates may be overlooked or unfairly disqualified due to algorithmic biases, hindering diversity and equity in the applicant qualification process.

Mitigation
- Diverse & Representative Data Collection
- Bias Auditing & Testing
- Fairness aware Modelling
- Stakeholder Engagement and Feedback
- Ethical Governance

FUTURE SCOPE

Integration with Educational Platforms for Continuous Learning

PROJECT 1

Hyperparameter Tuning and Feedback Loop Implementation

PROJECT 2

Development of Mobile Explanation

PROJECT 3

Citations

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THANK YOU