## **STRATEGY 1:**

Approach:

* Resumes + hiring criteria passed as input
* Markdown Parser for extracting contents of the resumes
* Storing to MongoDB server
* 10 resumes selected from MongoDB dataset for that particular role or from those resumes submitted by user
* O1 model to generate examples for reference scoring
* Resume data, examples, hiring criteria to be passed to low end model for generating response

Problems:

* o1 model has a context window limit of 128k. Resume data from 10 files would be large to handle in a single call and multiple calls would incur higher costs.
* If selecting 10 resumes from a pool of resumes given by users, diversity of resume points may be biased.
* Time consuming

## Each resume with input prompt for the current model has around 1.5K to 2K token as input and around 250 token as output.

## 



Llama 3.3 70B instruct model is open source but needs AWS services for running in real time.

Assume **p4d.24xlarge**:

* **On-Demand Pricing**: $32.77/hour.
* **Monthly Cost**:
  + **8 hours/day usage**: $32.77 × 8 × 30 = ~$7,864/month.
  + **24/7 usage**: $32.77 × 24 × 30 = ~$23,635/month.

**Spot Pricing** (estimated 50% discount):

* **8 hours/day usage**: ~$3,932/month.
* **24/7 usage**: ~$11,817/month.

## 

## 

## **Strategy 3:**

## Response with Markdown Parser (<https://huggingface.co/spaces/huggingchat/pdf-to-markdown>):

## **Aditya Raj Resume Evaluations for all Criteria:**

| Gemini 1.5 Flash | Gpt4o | Llama3.3 | Claude 3.5 Sonnet |
| --- | --- | --- | --- |
| **1. LLM Experience and Knowledge (Score: 5)**  The resume mentions "Machine Learning" and "Artificial Intelligence" skills but lacks explicit references to working with Large Language Models (LLMs) or their specific applications. | **LLM Experience and Knowledge**:  **Score**: 3  **Justification**: The candidate's experience includes text classification and sentiment analysis using TensorFlow, but there is no mention of specific work involving LLMs or state-of-the-art techniques in this domain. | **LLM Experience and Knowledge: 2**  The candidate's resume lacks direct experience with Large Language Models (LLMs), with no specific projects or experiences mentioned that demonstrate expertise in LLMs. The candidate's experience is more focused on machine learning and artificial intelligence in general. | **LLM Experience and Knowledge Score: 3** Justification: The candidate shows experience with ML and AI, but there's no direct evidence of working with Large Language Models specifically. The closest relevant experience is the text sentiment analysis project using NLP, which demonstrates basic language processing skills. |
| **2. Good Institute (IIT or NIT) (Score: 6)**  The resume states the candidate attends RKGIT, Ghaziabad, which isn't an IIT or NIT. | **Good Institute (IIT or NIT)**:  **Score**: 6  **Justification**: The candidate is from RKGIT, a private engineering college with a good regional reputation, but it does not have the prestige of IIT or NIT. | **Good Institute (IIT or NIT): 4**  The candidate is a student at RKGIT, Ghaziabad, which is not an IIT or NIT, and while it may have a good regional reputation, it is not considered to be among the top institutions in India. | **Good Institute (IIT or NIT) Score: 4** Justification: RKGIT Ghaziabad is a private engineering college, ranking below both IITs and NITs in terms of national prestige. While it's an accredited institution, it doesn't meet the specific preference for IIT/NIT. |
| **3. CGPA (Score: Not Scored)**  This criterion isn't evaluated based on the provided examples. | **CGPA**:  **Score**: Not mentioned  **Justification**: The resume does not provide CGPA information, so this criterion cannot be evaluated. | **CGPA: Not Evaluatable**  The candidate's resume does not mention their CGPA, so it is not possible to evaluate this criterion. | **CGPA Score: N/A Justification:** The resume doesn't mention the candidate's CGPA, so this criterion cannot be evaluated based on the available information. |
| **4. Generative AI Experience (Score: 10)**  The candidate demonstrates experience with projects involving YOLOv8 detector, a deep learning model often used in computer vision tasks. This experience suggests strong skills in generative AI techniques. | **Generative AI Experience**:  **Score**: 5  **Justification**: The candidate has worked on AI-generated text identification and ML pipelines, showing basic experience but lacking evidence of advanced Generative AI techniques or deployment. | **Generative AI Experience: 5**  The candidate has experience with machine learning and deep learning, but their resume does not specifically mention experience with generative AI techniques such as GANs or diffusion models. However, they have worked on projects that involve image processing and analysis, which could be related to generative AI. | **Generative AI Experience Score: 4** Justification: While the candidate has strong ML experience, there's no explicit work with generative AI technologies like GANs or diffusion models. The projects focus more on classification, detection, and analysis rather than generation. |
| **5. Leadership and Teamwork (Score: 7)**  The resume mentions the ability to work collaboratively but lacks concrete examples of leadership roles. | **Leadership and Teamwork**:  **Score**: 7  **Justification**: The candidate has demonstrated teamwork and collaborative skills in projects and internships, such as building ML pipelines and working in teams on various projects, but no evidence of leading a team is provided. | **Leadership and Teamwork: 5**  The candidate mentions that they have a "proven ability to work collaboratively with a team", but their resume does not provide specific examples of leadership or teamwork experience, such as leading a team or organizing an event. | **Leadership and Teamwork Score: 5 Justification:** The resumeshows project execution abilities but doesn't explicitly highlight leadership roles or team management experience. The projects suggest collaboration skills, but the level of leadership responsibility isn't clearly demonstrated. |

## 

## 

## **Nandini Resume**

| Gemini 1.5 Flash | Gpt4o | Llama3.3 | Claude 3.5 Sonnet |
| --- | --- | --- | --- |
| **1. LLM Experience and Knowledge (Score: Not Applicable)**  The resume doesn't explicitly mention working with Large Language Models (LLMs). While some NLP skills are highlighted ("Natural Language Processing"), they might not directly involve LLMs. | **LLM Experience and Knowledge**:  **Score**: 5  **Justification**: The candidate has experience with Natural Language Processing (NLP) and tools like FuzzyWuzzy, which relate to text analysis, but there is no explicit mention of work with LLMs or advanced language modeling projects. | **LLM Experience and Knowledge: 4**  The candidate has experience with Natural Language Processing (NLP) and has developed a Duplicate Question Pairs predictor using the Quora dataset, but their experience with Large Language Models (LLMs) is limited. They have used libraries like Fuzzywuzzy, but there is no direct mention of LLMs. | **LLM Experience and Knowledge Score: 2** Justification: While the candidate has NLP experience through the Duplicate Question Pairs project, there's no specific work with Large Language Models. The NLP work appears to be basic, using traditional techniques rather than LLM implementations. |
| **2. Good Institute (IIT or NIT) (Score: Not Applicable)**  This criterion focuses on attending an IIT or NIT. The resume mentions ABV IIITM, a prestigious institute, but not an IIT or NIT. | **Good Institute (IIT or NIT)**:  **Score**: 8  **Justification**: The candidate is pursuing a B.Tech at ABV IIITM, an institution of national importance and repute, though it is not at the same level as IITs or NITs. | **Good Institute (IIT or NIT): 8**  The candidate is a student at ABV IIITM, which is a reputable institution in India, although not an IIT. The institute has a good reputation for technical education and research. | **Good Institute (IIT or NIT) Score: 8** Justification: ABV IIITM (Indian Institute of Information Technology and Management) is considered on par with NITs in terms of prestige and academic rigor in India. The 8.5 CGPA at such an institution demonstrates strong academic performance. |
| **3. CGPA (Score: 8.5)**  The resume clearly states a CGPA of 8.5, demonstrating strong academic performance. | **CGPA**:  **Score**: 8  **Justification**: The candidate has a strong academic performance, with a CGPA of 8.5/10.0 in their B.Tech program, indicating above-average academic proficiency. | **CGPA: 9**  The candidate has a CGPA of 8.5/10.0, which is an excellent academic record, indicating strong academic credentials and a competitive environment. | **CGPA Score: 8** Justification: The candidate has an 8.5/10.0 CGPA at a premier institute, which demonstrates strong academic performance and consistent learning ability. |
| **4. Generative AI Experience (Score: 8)**  The "Handwritten Digit Generator" project using GAN (Generative Adversarial Network) showcases experience with a key generative AI technique. | **Generative AI Experience**:  **Score**: 7  **Justification**: The candidate has developed a handwritten digit generator using GANs, showcasing hands-on experience with generative models, which aligns well with this criterion. | **Generative AI Experience: 8**  The candidate has experience with Generative AI, having developed a Handwritten Digit Generator using GANs, Tensorflow, and Keras. This demonstrates a good understanding of generative models and their applications. | **Generative AI Experience Score: 6** Justification: The candidate has hands-on experience with GANs through the Handwritten Digit Generator project, showing practical implementation of generative AI. However, it's a relatively basic implementation using a standard dataset (MNIST). |
| **5. Leadership and Teamwork (Score: 7)**  The resume highlights teamwork through skills and a leadership experience as an Executive Member in the Student Activity Council. While the details don't show extensive leadership, they indicate potential. | **Leadership and Teamwork**:  **Score**: 8  **Justification**: The candidate has leadership and teamwork experience as an executive member of the Student Activity Council and as a teacher and manager in the Student Gyan Movement, demonstrating strong organizational and interpersonal skills. | **Leadership and Teamwork: 8**  The candidate has held positions of responsibility, such as Executive Member of the Student Activity Council - Cultural and Teacher/Managerial role in the Student Gyan Movement. They have also organized cultural events and contributed to teaching students in need, demonstrating leadership, teamwork, and communication skills. | **Leadership and Teamwork Score: 7** Justification: Strong evidence of leadership and teamwork through positions in Student Activity Council (Cultural) and Student Gyan Movement, progressing from teaching to a managerial role. The candidate has demonstrated both team participation and leadership capabilities in organizing events and managing initiatives. |

## 

## 

## **IITB Resume (Sahil Singh)**

| Gemini 1.5 Flash | Gpt4o | Llama3.3 | Claude 3.5 Sonnet |
| --- | --- | --- | --- |
| **LLM Experience and Knowledge (Score: Not Applicable)**  The resume doesn't mention working with Large Language Models (LLMs). | **LLM Experience and Knowledge**:  **Score**: 2  **Justification**: The candidate has strong statistical and analytical experience but lacks any mention of work involving LLMs, either through projects or research. | **LLM Experience and Knowledge: 1**  The candidate's resume does not mention any experience with Large Language Models (LLMs) or related technologies, indicating a lack of expertise in this area. | **LLM Experience and Knowledge Score: 1** Justification: The resume shows no evidence of work with Large Language Models or related technologies. The technical skills are primarily focused on statistical analysis and traditional programming. |
| **Good Institute (IIT or NIT) (Score: 10)**  The resume clearly states attending IIT Bombay for M.Sc. in Applied Statistics and Informatics, a prestigious institution. | **Good Institute (IIT or NIT)**:  **Score**: 10  **Justification**: The candidate is pursuing an M.Sc. in Applied Statistics and Informatics from IIT Bombay, a top-tier institution in India, reflecting excellent academic credentials. | **Good Institute (IIT or NIT): 10**  The candidate is a student at the Indian Institute of Technology Bombay, which is one of the top institutions in India, indicating strong academic credentials and a competitive environment. | **Good Institute (IIT or NIT) Score: 10** Justification: The candidate is currently pursuing M.Sc. at IIT Bombay, one of India's most prestigious IITs, and previously studied at BHU (a well-respected institution). The academic performance is exceptional with AIR 13 in IIT JAM. |
| **CGPA (Score: Strong - Not a single score provided)**  The resume showcases a consistent record of high academic performance:   * M.Sc. at IIT Bombay: Not mentioned (likely high based on achievements) * B.Sc. (Hons.) at BHU: Identical 9.14 SGPA in both semesters (excellent) * 12th Grade: 96% (outstanding) * 10th Grade: 93.8% (very good) | **CGPA**:  **Score**: 8  **Justification**: The candidate has a CPI of 8.64 in their M.Sc. program at IIT Bombay and achieved a 9.14 SGPA during their undergraduate program at BHU, indicating consistent academic excellence. | **CGPA: 9**  The candidate has a CPI of 8.64, which is an excellent academic record, indicating strong academic credentials and a competitive environment. | **CGPA Score: 9** Justification**:** The candidate has maintained excellent academic performance with 8.64 CPI in graduation, 96% in intermediate, and consistent high performance (9.14 SGPA in both 5th and 6th semesters at BHU). |
| **Generative AI Experience (Score: Not Applicable)**  The resume focuses on statistical analysis and machine learning (linear regression, logistic regression) but doesn't mention generative AI techniques. | **Generative AI Experience**:  **Score**: 3  **Justification**: The candidate’s projects and skills demonstrate a solid foundation in statistical modeling, regression, and prediction tasks, but there is no evidence of experience with Generative AI. | **Generative AI Experience: 2**  The candidate's resume does not mention any experience with Generative AI techniques such as GANs or diffusion models, indicating a lack of expertise in this area. However, they have worked on projects that involve data analysis and statistical modeling. | **Generative AI Experience Score: 2** Justification: While the candidate has experience with data analysis and statistical modeling, there's no direct work with generative AI technologies. The projects focus on statistical analysis and regression models rather than generative models. |
| **Leadership and Teamwork (Score: 7)**  The resume highlights leadership as "Maintenance Secretary" at IIT Bombay, demonstrating responsibility for a group and collaboration skills. | **Leadership and Teamwork**:  **Score**: 7  **Justification**: The candidate has leadership experience as the Maintenance Secretary at IIT Bombay, managing initiatives for over 200 residents, showcasing organizational and teamwork skills. However, no evidence of broader team leadership roles is provided. | **Leadership and Teamwork: 8**  The candidate has held a position of responsibility as Maintenance Secretary, Tansa House, and has led maintenance and hygiene initiatives for 200+ residents, demonstrating leadership and teamwork skills. They have also collaborated with hostel council members to organize and manage events, indicating ability to work with others. | **Leadership and Teamwork Score: 7** Justification: Strong leadership evidence as Maintenance Secretary at IIT Bombay, managing facilities for 200+ residents and collaborating with hostel council members. The position demonstrates practical leadership and team coordination abilities. |

## Strategy 4:

Found a good markdown parser model <https://huggingface.co/spaces/huggingchat/pdf-to-markdown>  
They don’t provide headers or tags for specific sections of the resume but keywords are enough for GenAI models to interpret and score the resume based on examples and hiring criteria (covered in Strategy 3)

I have tried other markdown parsers as well but some failed to retrieve data for a few types of resumes. So this one is good to use in future if required.

LayoutLM models require bounding boxes information along with the resumes. This can’t be provided for each particular style of resume. I tried building a HuggingFace space for the LayoutLM model but could not solve the bounding box issue. <https://huggingface.co/spaces/JayeshAh/LayoutLMv3-Resume-Parser>