

DEVMATCH: INTELLIGENT TALENT ALLOCATION



This project is an intelligent system that automatically assigns developers to projects based on their skills and the specific requirements of the project. By analyzing both the developer's expertise and the technical needs of each project, the system ensures optimal allocation, improving efficiency and productivity in project management and candidate selection.

In this challenge, each team will be provided with several CVs and job requirements. The goal is to analyze the skills and experiences listed in the CVs and match the most suitable candidates to each project based on their qualifications and expertise. Teams will be evaluated on the accuracy and effectiveness of their matches, ensuring the right skillsets are aligned with the job requirements. Additionally, teams must develop two separate interfaces:

1. An interface where a new job description can be entered, and the system returns the top 5 matching CVs, each accompanied by a score indicating how closely the candidate's skills match the project requirements.
2. An interface where a CV can be uploaded, and the system returns the best-matching job requirement, along with a score reflecting how well the candidate's qualifications align with the requirements.

The matching must be done not only on the technical skills but also based on the domain (ex: Banking project gives higher score to a CV that already worked in banking applications).

The whole data is provided as text files.

ALGORITHM CRITERIA

1. Industry Knowledge Criteria (10%)

- **Description:** This criterion assesses the developer's experience in the specific industry relevant to the job requirement (e.g., banking, healthcare, etc.). The system must analyze the developer's CV to determine whether they have worked in the required industry and assign a score accordingly.
- **Implementation:**

- The app scans the CV for references to relevant industries (e.g., previous projects in banking).
- The system assigns a score (0-100%) based on the extent of relevant experience. For instance:
 - No relevant industry experience: 0% score.
 - Some relevant projects: Partial score.
 - Extensive, direct experience: Full score (100%).
- **Weighting:** This criterion will contribute **10%** to the final match score.

2. Predefined Technical Skills and Qualifications (30%)

- **Description:** This criterion evaluates the developer's specific technical skills and qualifications based on predefined input fields. The skills and qualifications selected from the input will be weighted according to their importance for the job.
- **Implementation:**
 - For each job, predefined technical skills (e.g., Python, Java, React) are presented as input options.
 - The user can assign weights (in percentages) to each technical skill, with the total weight summing to **100%**.
 - The app analyzes the developer's CV for matches to these skills and calculates a weighted average based on the skills selected and the weights assigned.
- **Weighting:** This criterion contributes **30%** to the final match score.

3. Job Description and CV Matching (60%)

- **Description:** This criterion measures the overall alignment between the job description and the developer's qualifications. The app evaluates how well the CV matches the specific project requirements by considering both technical skills and domain knowledge.
- **Implementation:**

- The system uses keyword matching, semantic analysis, or machine learning models to compare the CV against the job description.
- The system generates a match score (0-100%) based on the relevance of the developer's experience and skills to the job requirements.
- **Weighting:** This criterion will contribute **60%** to the final match score.

Final Score Calculation

The final score will be a combination of the three criteria:

- **Industry Knowledge Score (10%)**
- **Predefined Technical Skills and Qualifications Score (30%)**
- **Job Description and CV Matching Score (60%)**

The **final match score** for each candidate can be calculated as:

- **Final Score = (Industry Knowledge Score * 0.10) + (Technical Skills & Qualifications Score * 0.30) + (Job Description Matching Score * 0.60)**

This approach ensures that the system accurately evaluates both the developer's industry experience and specific technical skills, while giving more importance to the overall alignment between the CV and the job description for optimal project assignment.

The returned best match must also come with an explanation as to why the candidate was selected.

JURIZATION CRITERIA

The challenge will be evaluated based on the following criteria:

- **Task Completion & Efficiency (40%):** Scoring will focus on the number of tasks tackled, as well as the time and cost efficiency of each request.
- **Output Accuracy (20%):** The results must be highly accurate, closely matching the ideal or expected outcomes.
- **Usability & Design (15%):** The application should be user-friendly, with a modern and visually appealing design that enhances ease of use.
- **UI/UX Implementation (5%):** The design must take into account the needs of the end user for an optimal experience.
- **Clarity of Best Match Explanation (5%):** The explanation for the best match should be clear, explicit, and easy to understand.
- **Code Quality (15%):** The quality and structure of the code will also be taken into consideration.