MATCHING OF JOB OPENINGS WITH SKILL DATABASE USING MACHINE LEARNING

● Role Transition Assistance

This trains a Random Forest classifier to predict an employee's role based on their skills, and suggests recommended skills for that predicted role.
The primary purpose of this script is to assist organizations and employees in making informed decisions about skill development and career progression. By analyzing an employee's existing skill set, the script predicts a suitable role within the organization that aligns with those skills. Additionally, the script suggests specific skills that the employee could focus on to enhance their qualifications for the predicted role.

● Dynamic Job Matching

This performs text classification on resumes using the K Neighbors Classifier and the OneVsRest approach for multi-label classification. The script reads a dateset of resumes, prepossesses the text, extracts features using TF-IDF (Term Frequency-Inverse Document Frequency), and trains a K Neighbors Classifier for classifying the resumes into different categories and tells the percentage of match for that resume and that of the job.

● Automated Candidate Shortlisting

This is designed to compare the textual content of two PDF documents (a CV and a Requirement document) and calculate the match between them using the cosine similarity metric. The script extracts text from the PDFs, prepossesses the text, converts it into a numeric representation, and then computes the cosine similarity between the two documents to determine how closely they match.

● Freelancer Skill Matching

This demonstrates how to match freelancers with projects based on their technical skills using cosine similarity. The script includes data encryption to securely handle skill data, such as technical skills and requirements. It uses the cryptography library for data encryption and sickit learn kit for cosine similarity calculation.