

# **NLP Topic Proposal**

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## **Resume matching with Job description using NLP**

### **Introduction:**

In today's competitive job market, the ability to tailor resumes to match job descriptions is essential for job seekers aiming to stand out. Advances in Natural Language Processing (NLP) have made it possible to automate and enhance this process, allowing for an in-depth analysis of resumes and job postings to identify alignment and highlight key improvements. NLP-driven systems can capture the underlying context, structure, and relevance of skills and experiences, providing job seekers with valuable insights to strengthen their applications and optimize their chances of success.

### **Objective:**

The goal of this project is to create an NLP-powered system that compares resumes with job descriptions and assigns a match score based on their similarity. By leveraging models like BERT, Sentence-BERT, and Siamese Networks, the system will accurately analyze the content of resumes and job postings to identify strengths and areas for improvement. Users will benefit from tailored feedback that pinpoints mismatched or missing keywords, essential skills, and relevant experience. This tool will be integrated into a web application built with Streamlit to offer an interactive platform where users can upload resumes and job descriptions, receive a match score, and access actionable suggestions for enhancing their resume to better align with job requirements.

### **Dataset:**

The Resume-Dataset by InferencePrince555 is a collection of over 32,000 resumes in CSV format, designed to facilitate research and development in natural language processing tasks related to resume analysis. Each entry includes detailed professional summaries, work histories, education backgrounds, and skill sets, providing a comprehensive resource for training models in resume parsing, information extraction, and job matching applications. The dataset is available under the Apache 2.0 license, allowing for both academic and commercial use.

**Link:** <https://huggingface.co/datasets/InferencePrince555/Resume-Dataset>