# Project Proposal: Automated Resume Screening

COMP 4750: Natural Language Processing
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## Goal

The goal of this project is to built an automated resume screening application. The purpose of this project is to demonstrate a practical industry use of Natural Language Processing that helps businesses save resources on recruitment.

## Description

The application will be built on python. It will consist of two main parts:

1. **Extraction of information from resume**
   This will include parsing of resume files (.pdf, .docx, etc.) to structered usable information that can be processed. The output type will be a python dictionary.

2. **Evaluation**
   Here, we will evaluate the usable informations to find a score for a given job description. This score will help rank resumes. The process will be done using a combination of few natural language processing and machine learning algorithms. The evaluation will be based on these primary factors:

   - Work Experience
   - Education
   - Skills
   - Personality

3. **Visualization**
   After evaluation, the results will be visualized using Python Matplotlib.

## References

Here is a list of references to be used for this project. List may change in the future.

1. Akhtar, A., Kumar, A., & Sinha, A. (2021). Resume Screening Using Natural Language Processing and Machine Learning: A Systematic Review. *Springer Nature Singapore Pte Ltd*.

2. Chen, C., Niu, Z., & Zhang, J. (2018). A Two-Step Resume Information Extraction Algorithm. *Hindawi - Mathematical Problems in Engineering*.

3. Mulla, S., Nimbekar, R., Patil, Yogesh., & Prabhu, R. (n.d.). Automated Resume Evaluation System using NLP. *Don Bosco Institute of Technology*

4. Kopparapu, K. (n.d.). Automatic Extraction of Usable Information from Unstructured Resumes to Aid Search. *TCS Innovation Labs*