North East University Bangladesh (NEUB)

Telihaor, Sheikhghat, Sylhet-3100

Department of Computer Science & Engineering (CSE)

Project Proposal Spring 2025

Course Code: CSE-460

Course Title: Deep Learning

Member:

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Project Title: Resume Screening Application.

Introduction & Objective:

The purpose of this project is to build an intelligent resume screening system that automatically analyzes and ranks resumes using Natural Language Processing (NLP) and Deep Learning. This application helps recruiters filter out the most relevant candidates by comparing their resumes against specific job descriptions.

Learning Outcomes:

Through this project, I aim to:

- Understand how to apply NLP techniques to extract meaningful information from resumes.
- Learn to pre-process textual data and convert it into numerical representations.
- Implement and train a deep learning model for text classification or matching.
- Build a simple front-end to visualize and interact with the resume screening results.

Dataset Used:

We will use the dataset provided or referenced in the tutorial, which includes:

- Sample **job descriptions**
- Multiple **resumes in text format (PDF or DOCX converted to text)**
- If needed, synthetic or sample resumes will be generated or sourced from public datasets for training/testing.

Example dataset links:

- Kaggle: Resume Dataset
- Public job descriptions from websites like Indeed or LinkedIn.

Tools & Libraries:

- **Python**
- **NLP Libraries.**
- **Pandas, Numpy** for data handling
- **NLTK / SpaCy** for NLP preprocessing
- **Scikit-learn, TensorFlow or Keras** for modeling

Deep Learning Model:

The project will use the following model architecture:

- **Word Embedding Layer:** Using pretrained models like **TF-IDF**, **Word2Vec**

  Optional: **LSTM or BERT** model if advanced learning is required.