

A
Synopsis
on

Research Review X

Submitted in partial fulfillment for
BTech Project-I

Submitted by

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Synopsis of Major Project-I

- 1. Introduction:** Automated web application for objective research paper quality assessment.
- 2. Relevance/Importance of proposed work:**
 - Significantly relevant in the academic and research domain.
 - Addresses the need for an efficient and reliable assessment system.
 - Provides researchers and readers with valuable insights for informed decisions. Streamlines the evaluation process using data preprocessing and analysis.
 - Utilizes machine learning algorithms to enhance the quality of assessments.
 - Contributes to maintaining the integrity of scholarly literature.
- 3. Problem Statement:** The challenge is to create an automated web application that objectively evaluates the quality of research papers. The system should perform data preprocessing, analyze the papers based on predefined criteria, and generate quality ratings, enabling researchers and readers to make informed decisions about the reliability and significance of the literature they encounter.
- 4. Objective:**
 - Develop an automated web application for objective research paper quality assessment.
 - Implement data preprocessing techniques, including text cleaning and Tokenization.
 - Analyze papers using predefined parameters like verb analysis, readability, and language complexity.
 - Generate quality ratings through machine learning algorithms for informed decision-making.
 - Ensure user-friendliness, scalability, and integration of image-to-text conversion and paragraph separation modules.

5. Methodology:

The methodology for the research paper quality assessment project involves several key steps. First, we will develop a web-based application using Streamlit for the frontend and Python for the backend to provide a user-friendly interface for researchers and readers to upload their papers. Next, we will implement data preprocessing techniques, including text cleaning, lowercasing, tokenization, stopwords removal, and stemming, to prepare the text data for analysis. The papers will then undergo an objective evaluation using predefined parameters, such as verb analysis, readability scores, and language complexity, to quantify their quality. Machine learning algorithms, such as regression models or decision trees, will be employed to analyze the data and generate quality ratings. Additionally, we will integrate modules for image-to-text conversion and accurate paragraph separation to handle diverse file formats. The system's performance and accuracy will be validated through extensive testing, ensuring the reliability of the quality assessment process.

6. References:

1. R.V. Rao, V.J. Savsani and J. Balic, "Teaching-learning-based optimization algorithm for unconstrained and constrained real parameter optimization problems", *Engineering Optimization*, vol. 44, no. 12, pp. 1447-1462, 2012
2. H. V. Valluru, S. Khandavilli, N. V. S. K. C. Sela, P. r. Thota and L. N. V. Muktevi, "Modified TLBO Technique for Economic Dispatch Problem," *2018 Second International Conference on Intelligent Computing and Control Systems (ICICCS)*, Madurai, India, 2018, pp. 1970-1973, doi: 10.1109/ICCONS.2018.8663225.
3. An autonomous teaching-learning based optimization algorithm for single objective global optimization. Fangzhen Ge, Liurong Hong & Li Shi.
4. Teaching-learning-based optimization: A novel method for constrained mechanical design optimization problem. R.V. Rao , V.J. Savsani, D.P. Vakharia
5. Optimizing Engineering Designs Using a Combined Genetic Search, Kalyanmoy Deb and Mayank Goyal

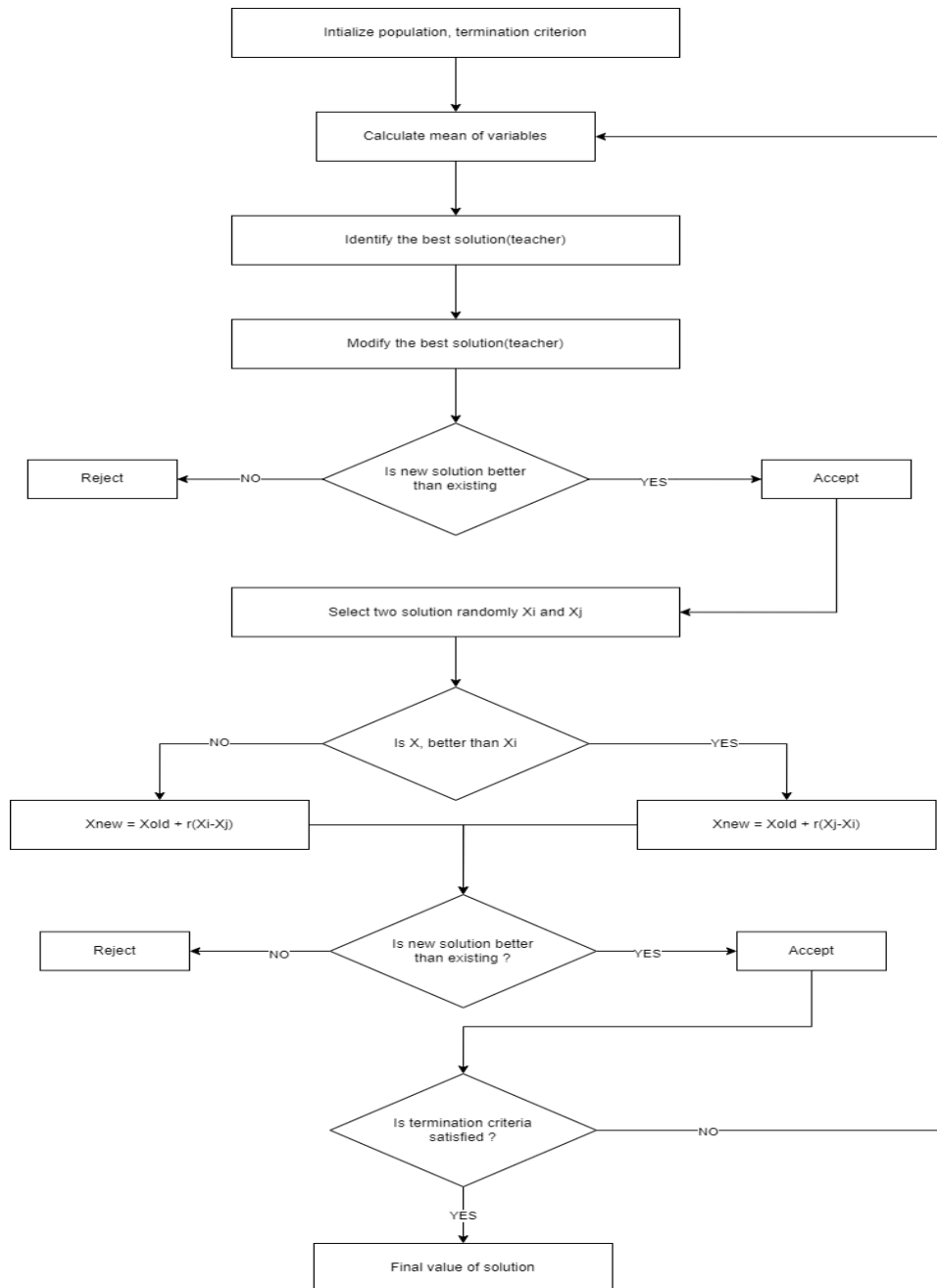


Fig1:

7. Outcome of project: Paper publication, real world problem solving

Name and Signature

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