AI BASED JOB APPLICATION TRACKING SYSTEM

Major Project Report

Submitted in partial fulfilment of the requirement for the award of the Degree of

Bachelor of Technology (B. Tech)

in

Computer Science and Engineering (AI&ML)

By

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ACE ENGINEERING COLLEGE

AN AUTONOMOUS INSTITUTION

(NBA Accredited B.Tech Courses: ECE, EEE & CSE)

(Affiliated to Jawaharlal Nehru Technological University, Hyderabad, Telangana)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (AI&ML)

CERTIFICATE

This is to certify that the Major Project work entitled "**AI Based Job Application Tracking System**" is being submitted by **Bharath Siddireddy (21AG1A66B2), Dinne Police Shashank (21AG1A6679), Dharavath Vigneshwar (21AG1A6678),** in partial fulfilment for the award of Degree of **BACHELOR OF TECHNOLOGY in DEPARTMENT OF COMPUTER SCIENCE ENGINEERING (AI&ML)** to the Jawaharlal Nehru Technological University, Hyderabad is a record of Bonafide work carried out by them under our guidance and supervision.

The results embodied in this project have not been submitted by the student to any other University or Institution for the award of any Degree or Diploma.

Internal Guide	**Head of the Department**
Dr. Soppari Kavitha	Dr. Soppari Kavitha
Assoc. Professor and Head	Assoc. Professor and Head
Dept. CSE (AI&ML)	Dept. CSE (AI&ML)

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ABSTRACT

This is an AI powered job application tracking system focused on promoting fair and unbiased candidate assessment. Built with ReactJS and Flask, the system leverages AI Ethics tools such as TensorFlow Fairness Indicators and IBM's AIF360 to identify and reduce biases in hiring. Fairness metrics help detect potential biases in the application process, while reweighing techniques are applied to ensure that all demographic groups are represented equitably.

In addition, the system performs soft skills analysis, using Hugging Face NLP models to examine candidates' activity descriptions for indicators of interpersonal skills. By integrating these fairness checks with soft skills insights, the system produces a balanced score for each candidate, helping organizations make more inclusive and transparent hiring decisions. This approach addresses bias in recruitment while offering a practical solution for fairer hiring practices.

Keywords: AI Ethics Tools, TensorFlow, AIF360 tool, Hugging Face Model, ReactJS, Flask.

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