

Profile Evaluation and Job Suggestion using TNN

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Abstract: *The Job Prediction System is an AI-driven solution designed to bridge the gap between candidate profiles and job opportunities by leveraging advanced Natural Language Processing (NLP) and machine learning techniques. This system combines two innovative approaches: a CV Analyzer that extracts and processes skills, education, and experience from uploaded resumes (PDF/DOCX), and a Transformer Neural Network trained on skill-job datasets to predict roles based on user-input skills. The CV Analyzer employs NLP techniques like Named Entity Recognition (NER) and TF-IDF-based keyword matching to map candidate profiles to predefined job roles, while the transformer model (BERT) ensures high-accuracy predictions by learning contextual relationships between skills and job requirements. Integrated into a Flask-based web application, the system features user authentication, real-time predictions, and an intuitive dashboard for seamless interaction. Testing demonstrated 87% prediction accuracy with an average response time of <3 seconds, validating its efficiency and scalability. The project highlights the potential of hybrid AI models to automate recruitment workflows, reduce manual effort, and enhance decision-making fairness through bias-mitigated datasets..*

Keywords: Natural Language Processing (NLP), Flask, CV Analysis, Job Prediction Accuracy, Skill Matching, Transformer Neural Networks

