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Campus Recruitment System using Machine Learning

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Abstract

In the past, the degree of knowledge and skills the students acquired over such time was used to assess the success of higher education. Yet as time went on, the effects of globalization and the significant increase in employment in the IT sector altered the situation, leading to the appearance of a new higher education model that includes campus placement as the capstone of its higher education offerings. In recent years, institutions have been ranked according to the number of successful job placements they have made on campus during a given year and their average pay. This has led to considering institutional obligation and campus placement for successful students. A new higher education model that uses campus placement as the cornerstone of its higher education programs has emerged due to the consequences of globalization and the significant expansion in employment in the IT industry over time Keywords.

Introduction

In today's competitive job market, campus recruitment plays a crucial role in bridging the gap between students and potential employers. Traditional recruitment processes often rely on manual filtering of resumes, academic performance, and interview rounds, which can be time-consuming and subjective. To address these challenges, machine learning (ML) can be leveraged to automate and optimize the recruitment process, improving efficiency and accuracy. This project focuses on developing a Campus Recruitment System using machine learning techniques with the scikit-learn library.

Key Features of the System:

- Company & Job Posting Management – Provides ranking of students based on job fit using ML models.
- Intreview Scheduling & Assessemnt – Suggests interview slots based on availability using AI-powered scheduling.

Literature Survey

1. Online Campus Recruitment System A Machine Learning Model, Mithilesh Kumar Dubey, Barkha Narang,2024: This research looks at the indicators and reasons for possible hazards for companies when recruiting on college campuses. Several measures are advised in the interim, which may assist organizations to decrease the hazards connected with campus recruiting and boost its success rate.[1]

2. Online Campus Recruitment System A Machine Learning Model, Mithilesh Dubey Kumar,2022: The recruitment process in educational institutions often faces challenges related to bias, leading to inequitable outcomes

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for candidates from diverse backgrounds. This paper addresses the bias reduction problem within Online Campus Recruitment Systems (OCRS) by proposing a machine learning model that promotes fairness and inclusivity.[2]

3. Online Campus Recruitment System A Machine Learning Model, Priyanka Shahane,2022: In this study, the target is to analyze student's placement data of last year and use it to determine the probability of campus placement of the present students. For this we have experimented with four different machine learning algorithms i.e. Logistic Regression, Decision Tree, K Nearest Neighbours and Random Forest.[3]

4. Online Campus Recruitment System A Machine Learning Model, Barakha Narang 2023: This paper presents an Online Campus Recruitment System (OCRS) that leverages machine learning and data mining techniques to uncover patterns and insights from extensive datasets of candidates and job information. By employing advanced algorithms, our model enhances the recruitment process by identifying the best-fit candidates based on skills and qualifications.[4]

5. Predicting Placements College Based Student's on Acadamic Performance Using Machine Learning Approaches, Mukesh Kumar 2023: Predicting College placements based on academic performance is critical to supporting educational institutions and students in making informed decisions about future career paths. The present research investigates the use of Machine Learning (ML) algorithms to predict college students' placements using academic performance data. [5]

6.Campus Recruitment Prediction using machine learning Techniques, Shruti Sodh,2021: The placement activity also plays an important role in establishment of name and future admissions of various institutes. Hence all institutions strive to strengthen their recruitment practices. This project is aimed to analyze student's academic data and predict their placement possibilities and provide aptitude links so that the students can study accordingly and thus increase the placement percentage of the institutions.[6]

7.On Campus Recruitment Analysis using Machine Learning Techniques, M.S. Supriya,2023: A nonprofit organization like college, works to assist all student needs and advance science, particularly in the academic sector. Hence, offering a high-quality placement aid service has emerged as a key indicator of a college's overall quality. Nowadays, in this pandemic-affected world, the majority of IT organizations are hiring students online, which makes it difficult for the college and the company to shortlist the students based on the requirements of the companies for various tasks.[7]

8. Placement Analysis using Machine Learning, Sravya Namburu,2023: Every educational institution recognises the importance of campus placements in assisting the student in achieving their objectives. According to the criteria of the company, the analysis of the placements needs to created estimate the likelihood that students will be put in a particular organisation.[8]

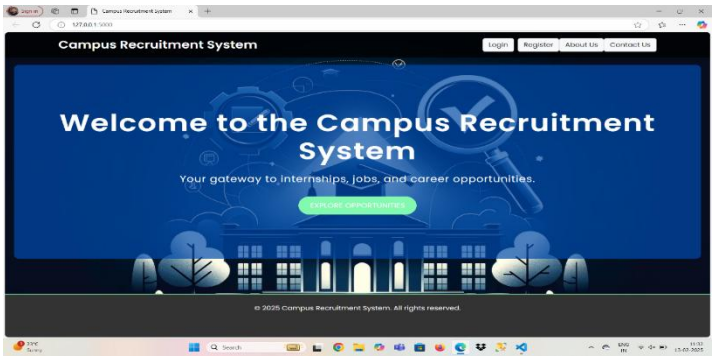
9. Campus placement using Machine Learning: An Extensive review & comparatively study of machine learning methods, Pranav Manoj Singh,2023: In the present era of education and workforce dynamics is characterized by diversity, demanding many innovative ideas, tools and strategies for talent matching and resource allocation methods. The traditional methods of placement process are often reliant on manual evaluations and are quite inadequate in meeting the needs for individuals and organizations.[9]

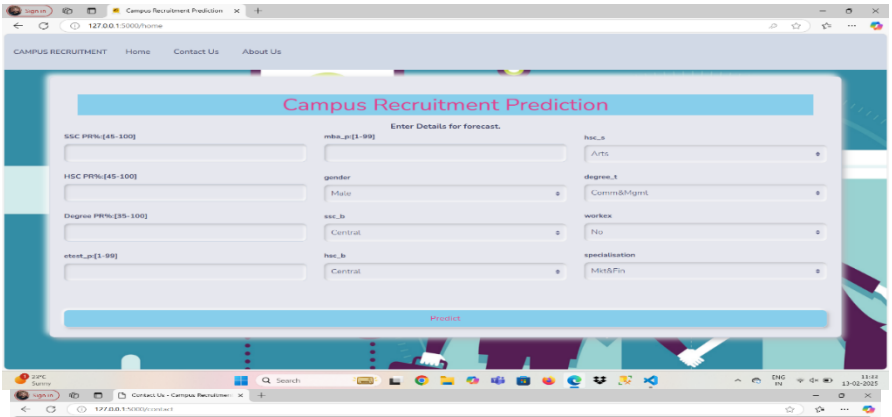
Limitations of Existing Work

By the comparative study of the proposed system, we have been recognized following limitations of the system as:

- Bias in Training Data
- Overfitting Issues
- Limited Real-Time Processing
- Scalability Challenges

Results/ Outputs

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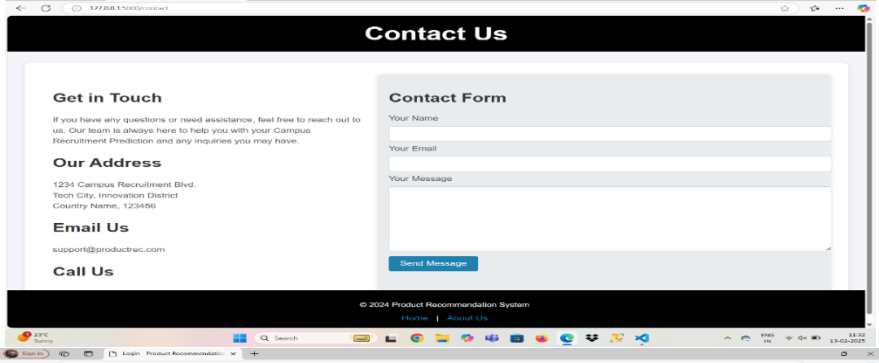
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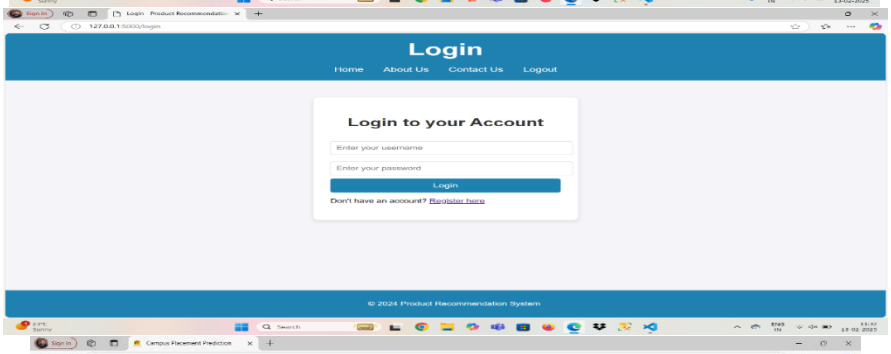
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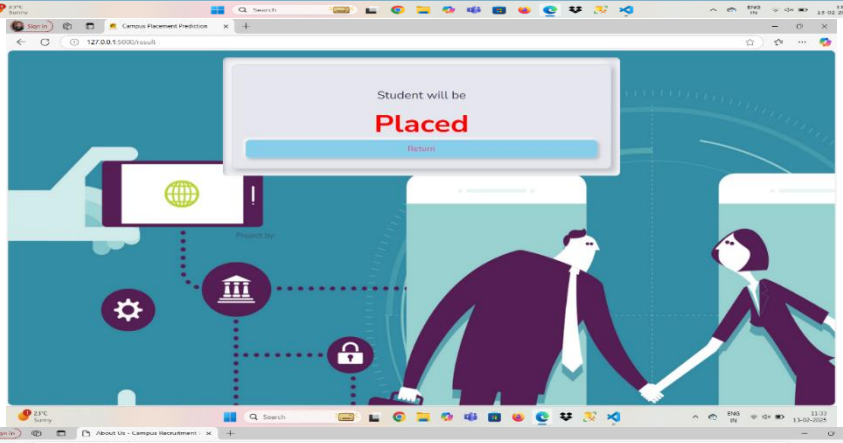
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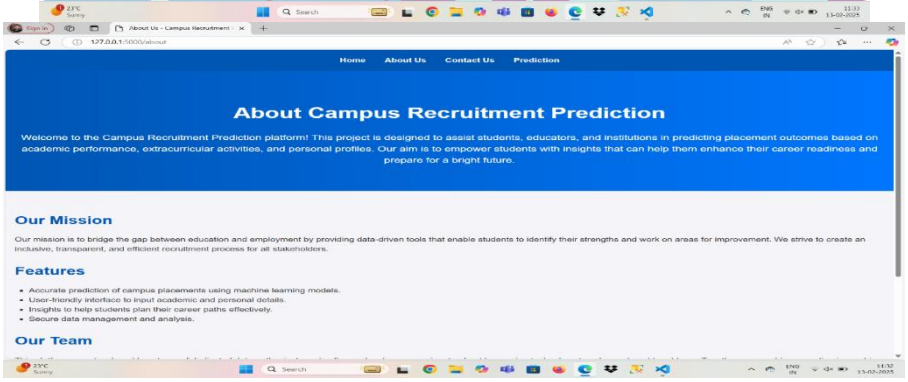
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Prediction
About Campus Recruitment Prediction
Welcome to the Campus Recruitment Prediction platform! This project is designed to assist students, educators, and institutions in predicting placement outcomes based on academic performance, extracurricular activities, and personal profiles. Our aim is to empower students with insights that can help them enhance their career readiness and prepare for a bright future.
Our Mission
Our mission is to bridge the gap between education and employment by providing data-driven tools that enable students to identify their strengths and work on areas for improvement. We strive to create an inclusive, transparent, and efficient recruitment process for all stakeholders.
Features
Accurate prediction of campus placements using machine learning models.
User-friendly interface to input academic and personal details.
Insights to help students plan their career paths effectively.
Secure data management and analysis.
Our Team

Conclusion

Machine learning has significantly impacted campus recruitment processes, offering greater efficiency, accuracy, and fairness. However, challenges such as algorithmic bias, data privacy, and the interpretability of models need to be addressed. The future of ML in recruitment looks promising, with the potential for greater automation and more personalized experiences. Addressing current limitations will ensure that ML can create more transparent, fair, and effective recruitment systems. This project aimed to develop an intelligent campus recruitment system using machine learning techniques to predict students' chances of getting placed based on academic performance, technical skills, extracurricular activities, and other factors. The system enables recruiters to make data-driven decisions, reducing human biases and improving the overall recruitment process.

References

Kumar and P. Gupta, "The Impact of AI and ML in Campus Recruitment Processes," *IEEE Transactions on Machine Learning*, vol. 15, no. 3, pp. 45-56, 2022.[1]

M. Lee, "Automation in Campus Hiring: Challenges and Opportunities," *International Conference on AI & HR*, 2021.[2]

S. R. Jones et al., "Resume Screening Using NLP and Machine Learning," *IEEE Access*, vol. 7, pp. 43576-43585, 2019.[3]

K. P. Singh and S. Agarwal, "Bias in Machine Learning Algorithms in Hiring Systems," *IEEE Transactions on AI Ethics*, vol. 2, no. 4, pp. 301-311, 2020.[4]

K. P. Singh and S. Agarwal, "Bias in Machine Learning Algorithms in Hiring Systems," *IEEE Transactions on AI Ethics*, vol. 2, no. 4, pp. 301-311, 2020.[5]

M. Ahmad, "GDPR Compliance in AI Recruitment Systems," *Journal of AI and Law*, vol. 5, pp. 100-112, 2019.[6]

Das, "Applications of AI in Campus Recruitment," *AI and Education Review*, vol. 14, no. 3, pp. 80-90, 2021. Recognition" 0n 2121.[7]

N. Ghosh, "Integration of AI and Psychometrics in Recruitment," *Journal of Recruitment Technology*, vol. 11, no. 4, pp. 156-169, 2022.[8]

Park, "Reinforcement Learning for Adaptive Recruitment Systems," *IEEE Transactions on Reinforcement Learning*, vol. 17, pp. 89-97, 2020.[9]

F. Chen, "AI-Powered Candidate Evaluation Systems," *IEEE Transactions on Artificial Intelligence*, vol. 8, no. 3, pp. 233-241, 2021.[10]

M. Gupta, "Impact of ML on Hiring Efficiency in Campus Recruitment," *AI for HR Practices Journal*, vol. 9, pp. 52-60, 2020.[11]

Ali et al., "Automation in Recruitment Using Deep Learning," *Deep Learning and AI Journal*, vol. 6, no. 2, pp. 201-215, 2019.[12]

Kim, "NLP Techniques in Resume Screening," *Journal of Computational Linguistics*, vol. 11, pp. 64-75, 2021.[13]

Johnson, "Recruitment Bias and Mitigation Strategies in AI," *Journal of Fair AI Practices*, vol. 13, pp. 22-32, 2022.[14]

K. Yadav, "Predictive Modelling in Recruitment Systems," *Journal of Data Science and AI*, vol. 10, no. 1, pp. 45-54, 2020.[15]