

e-ISSN: 2319-8753 | p-ISSN: 2347-6710

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International Journal of Innovative Research in SCIENCE | ENGINEERING | TECHNOLOGY

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 13, Issue 3, March 2024

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 8.423

9940 572 462

6381 907 438

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International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET)



|e-ISSN: 2319-8753, p-ISSN: 2347-6710| www.ijirset.com | Impact Factor: 8.423| A Monthly Peer Reviewed & Referred Journal |

Volume 13, Issue 3, March 2024

| DOI:10.15680/IJIRSET.2024.1303055 |

A Review on Navigation Tomorrow: A Machine Learning Approach to Campus Placement Prediction

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ABSTRACT: The Campus Placement Prediction and Management System Web Portal is a transformative solution designed to revolutionize the traditional campus placement process within educational institutions. This web-based platform Engages the power of predictive analytics and machine learning to provide a seamless and data-driven ecosystem for students, recruiters, and administrators.

The system encompasses robust features such as comprehensive student profiles, predictive analytics tools, intelligent job matching algorithms, and a user-friendly recruiter dashboard. By leveraging these functionalities, the portal aims to enhance the efficiency of the placement process, ensuring that students are connected with opportunities that align with their skills and career aspirations.

The integration of machine learning algorithms enables the system to predict a student's likelihood of success in specific roles or industries, providing valuable insights for both educational institutions and recruiters. Real-time communication tools and scheduling features facilitate seamless interaction between students and recruiters, creating a collaborative and efficient placement environment.

KEYWORDS : Students, Machine Learning, Placement, Prediction, Campus, Training and Placement, Database, Result, Email-Notification.

I. INTRODUCTION

In the dynamic landscape of higher education, universities and colleges face the constant challenge of effectively managing the placement process for their students. The Campus Placement Prediction and Management System Web Portal emerges as a cutting-edge solution designed to streamline and enhance the entire campus placement lifecycle. This comprehensive system leverages web-based technologies to provide a seamless platform for students, recruiters, and administrators, fostering an efficient and data- driven placement ecosystem.

Placement is crucial for the success of colleges and students. The Placement Prediction system uses classification algorithms to predict the probability of a student getting placed in a company based on theiracademic history. This helps students improve their academics and acquire more skills for better placement. It also helps institutions build better placements and academic records to attract new admissions and get a reputation.

II. OBJECTIVE

1. To Increase the overall success rate of students by providing insights into areas they need to focus

2. Facilitate the matching of students with employers who best fit their skills career aspirations, and organizational culture preferences

III. PROBLEM STATEMENT

- i. **Predicting Placement Success:** Develop a model to predict the likelihood of a student securing a job placement based on academic performance, skills, internships, and other relevant factors.
- ii. Identifying Key Predictors: Determine the most significant factors influencing placement outcomes, such as

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GPA, technical skills, communication skills, and extracurricular activities.

- iii. **Personalized Recommendations:** Create a system that provides personalized recommendations to students on how to improve their chances of placement success based on their individual profiles and career aspirations.
- iv. **Comparative Analysis:** Compare the placement success rates of different academic departments orcourses within the institution to identify areas for improvement and best practices.

IV. LITERATURE SURVEY

Prof. S.S. Kashid et al. [1] provides various machine learning algorithms used for predicting student placement and their efficiency. The algorithms include KNN, SVM, Logistic regression, and Random Forest. The accuracy of each algorithm was compared, with Logistic Regression having the highest accuracy. The higher the PG CGPA, the more likely a student is to be placed. The K-nearest neighbors' algorithm was used to predict placement based on the academic history and skill set of students. The finallogistic model was developed using previous year placement data and thirteen parameters. The model predicts future outcomes of each student in future sessions of jobs and has better accuracy than other algorithms. Machine learning technique is used to design and implement the logistic classifier.

Dr. Kajal [2] used decision tree and random forest to classify campus placed and non-placed students. They propose supervised machine learning classifiers to foresee student placement based on academic performance. The classification algorithms include Vector Machine, Gaussian Naive Bayes, K-Nearest Neighbor, Random Forest, Stochastic Gradient, Descent, Logistic Regression, and Neural Network. The authors used Knowledge Discovery and Data Mining for the placement procedure using the classificationtechnique

Dr. Kaveri Kari et al. [3] published a paper that uses data mining studies to predict patterns based on various variables. Prediction using weka tool and machine learning in R studio. Historical and forecast data on current student enrollment and enrollment rates. Equitable Employment Program (EAP): The goal of the EAP is to ensure that all students and faculty are placed in program institutions.

According to G. Gautami et al. [4] in their study discussed the predictive nature of correlation feature selection. Additional vehicle combinations are possible in the future Classifiers to develop a suitable rank prediction system other machine learning approaches including logistic regression and SVM models. Students from different fields of study. in order to analyze the possibilities of joint placement of students Previously, different sets of algorithms were modified with operational settings and evaluation methods. in creating a predictive model that allows for the best possible identification

VJ Hariharana et al. [5] provides an overview of different machine learning techniques used for student placement prediction. It discusses various features and algorithms employed in the prediction models, along with their advantages and limitations. The authors analyze the performance of various models and highlight the factors influencing placement outcomes, such as academic performance, skills and internships. Review paper provides an overview of different machine learning techniques used for student placement prediction. It discusses the role of various features, such as academic performance, and personality traits, in predicting placement outcomes. Review paper provides an overview of different machine learning techniques used for student placement prediction. It discusses the role of various features, such as academic performance, personality traits, in predicting placement prediction. It discusses the role of various features, such as academic performance, personality traits, and communication skills, in predicting placement outcomes.

V. CONCLUSION

In conclusion, the Campus Placement Prediction and Management System Web Portal stands as a transformative solution aimed at revolutionizing the traditional campus placement process. Through the integration of advanced technologies, predictive analytics, and streamlined communication channels, this platform strives to create an efficient, data-driven, and collaborative ecosystem for students, recruiters, and administrators.

The advantages of the system include enhanced efficiency, data-driven decision-making, improved student profiling, and increased placement success rates. By providing valuable insights through predictive analytics, intelligent job matching algorithms, and real-time communication features, the portal aims to bridge the gap between educational institutions and industry requirements, ultimately benefiting the futureworkforce.

However, it is crucial to acknowledge the potential challenges and disadvantages, such as technical hurdles, user resistance, data privacy concerns, and the need for continuous maintenance. Addressing these challenges requires a

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proactive approach, including robust security measures, user training, and ongoing system refinement based on user feedback and evolving industry needs. The Campus Placement Prediction and Management System Web Portal represents a significant step toward modernizing and optimizing the placement process. As technology continues to evolve, and the job market becomes increasingly dynamic, this platform serves as a beacon of innovation, facilitating a more responsive, fair, and industry-relevant placement experience for students and recruiters alike.

In essence, the success of the web portal hinges on its ability to adapt, learn, and continuously improve, ensuring that it remains a valuable tool in fostering meaningful connections between aspiring professionals and the organizations seeking their talents. As we navigate the ever-changing landscape of education and employment, the Campus Placement Prediction and Management System Web Portal embodies the commitment to creating a symbiotic relationship between academia and industry, propelling the workforcetoward a more successful and fulfilling future.

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