

QIS College of Engineering and Technology

(Autonomous)

*Directorate of Project Skilling and Research*

**Literature Survey Summary**

|  |  |
| --- | --- |
| **Project Title** | Smart Recruitment Analytics : Predictive Analysis Of Campus Placements Using Python |
| **Batch Number** | 3 |
| **Domain** | Machine Learning |
| **Roll No & Name of the student** | 22491A4209 & Chittiboyina Jagadeesh |
| **Mentor Name** |  |
| **Mentor Signature** |  |

**Paper 1: " A Review of Various Deep Learning Approaches for Placement Prediction"**

**Authors:** [Minal Bodke ,Vishnu Tiwari ,Jayesh Wadhwani]  
**Journal/Conference:** [ICMLAS, Prawet, Thailand] (ieeexplore)  
**Year:** [2025]

**Summary:**  
This paper reviews deep learning methods, especially those utilizing self-attention, to enhance student placement prediction in higher education. It tackles challenges like feature selection, data imbalance, and complex data patterns. The authors introduce a multi-layer framework combining deep learning and ensemble techniques to improve prediction accuracy. Evaluation metrics such as accuracy, precision, recall, and F1 score demonstrate the model’s effectiveness, offering valuable insights for educational data mining.

**Paper 2: " Predictive Modeling and Analysis of Campus Placements Using Machine Learning Techniques"**

**Authors:** [Sanskruti Gaurkhede, Rushikesh Burle, Amit Gudadhe]  
**Journal/Conference:** [ICSCNA, Theni, India] (ieeexplore)  
**Year:** [2024]

**Summary:**  
A campus placement prediction system uses various student metrics, including academic performance, test scores, and project experience, to estimate placement chances. This method helps students identify areas for improvement and boosts their employability skills. The analysis relies on previous placement data to predict outcomes for current students. Several machine learning models—Logistic Regression, Decision Tree, SVM, KNN, and Random Forest—are evaluated for their effectiveness in this task.

**Paper 3: " Student Placement Prediction using Deep Learning Techniques"**

**Authors:** [T. Maragatham, P. Yuvarani, S. Harishri]  
**Journal/Conference:** [ICECA, Coimbatore, India] (ieeexplore)  
**Year:** [2024]

**Summary:**  
This research introduces an advanced deep learning model combining Feedforward Neural Networks, Recurrent Neural Networks, and LSTM to improve student placement predictions. The system effectively analyzes diverse and complex student data to provide accurate placement probabilities and career path insights. It helps educational institutions tailor placement strategies to individual student strengths and goals. Ultimately, this approach aims to enhance students’ career prospects and institutional placement success.

**Paper 4: " Student Placement Prediction Using Supervised Machine Learning"**

**Authors:** [M. Siva Surya, M.Sathish Kumar, D. Gandhimathi]  
**Journal/Conference:** [ICACITE, Greater Noida, India] (ieeexplore)  
**Year:** [2022]

**Summary:**  
This study focuses on analyzing recent student data from a specific institution to predict current students' placement likelihood. By employing a predictive algorithm, the model aims to enhance the university's ability to support student placements, benefiting both students and the institution. The data was carefully preprocessed, and the model’s accuracy was compared with traditional classification methods. Results show that the proposed approach significantly outperforms existing algorithms.

**Paper 5: "Student placement analyzer: A recommendation system using machine learning"**

**Authors:** [Sentkil Kumar Thangavel, P. Divya Bkaratki, Abijitk Sankar]  
**Journal/Conference:** [Journal/Conference Name] (ieeexplore)  
**Year:** [2023]

**Summary:**  
This paper proposes a machine learning-based recommendation system that predicts students' placement categories, such as Dream Company or Not Eligible, using historical student data. The model aids placement cells in identifying and supporting students to enhance their technical and interpersonal skills. Additionally, it helps pre-final and final year students understand their likely placement outcomes and motivates them to improve accordingly.

**Reference**

1. M. Liu, B. Yang, and Y. Song, “Research on predicting the turnover of graduates using an enhanced random forest model,” *Behavioral Sciences*, vol. 14, no. 7, p. 562, 2024.
2. Ajay Kumar Pal and Saurabh Pal, ( 2024), “Classification Model of Prediction for Placement of Students,” *I.J.Modern Education and Computer Science*, Volume 11, pp. 49–56.
3. Ahmed, S., Zade, A., Gore, S., Gaikwad, P., Kolhal, M. “Performance Based Placement Prediction System.” *IJARIIE-ISSN (O)* - 4 ( 3 ) 2022 : 2395–4396.
4. Priyanka Shahane. “Campus Placements Prediction & Analysis using Machine Learning ”. *2022 International Conference on Emerging Smart Computing and Informatics (ESCI)*. March 2022.
5. Rokach, L and O. Maimon ( 2023 ) Data mining with decision trees: theory and applications. *World Scientific Pub Co Inc.* ISBN 978-98127717711.