Bits e-Grievance

[1]Dr.V.venkateshwarlu, [2]Rakhi chander,[3]Navya,[4]pallavi,[5]varshith raj,[6]Anand
[7]Jampala Chaitanya,[8]Ramdas Vankdothu

,

[1,7,8]Assistant Professor,

[2,3,4,5,6] Student,

[1]Department of Computer Science,
[1]balaji institute of technology & scienceWarangal India

Abstract:
BITS E-Grievance website is a revolutionary online portal that aims to simplify and improve the process of grievance redressal in institutes of learning. The website is a conduit between students, teachers, and administrative heads, facilitating effective and transparent resolution of issues. The website has an easy-to-use interface for lodging grievances and provides accountability through organized steps. Powered by solid technologies, the system guarantees confidentiality and protection of data while being supportive and participatory. Minimizing the need for human intervention, coupled with high levels of accessibility, the BITS E-Grievance web site seeks to enhance institutional efficiency, empower stake holders, and instill confidence within the campus population..

IndexTerms **- Student Grievance,Grievance Redressal System, Web - based Application, Complaints, Status.**

1 INTRODUCTION

The Student Grievance System is an essential part of any academic institution, a well-defined mechanism through which the students can put forward complaints, issues, or grievances. It becomes a readily available tool for ensuring the students a platform to seek redressal for what they are facing while pursuing their studies. There has been increased focus in recent years on enhancing the student experience and securing transparency and accountability from the education providers. Consequently, various institutions have put in place student grievance mechanisms to facilitate ease in the process of handling complaints and ensuring grievances are treated in an equitable and timely manner.The Student Grievance System would generally have a simple and interactive interface through which the students might upload their complaints online, and complaint status tracing and resolution update on progress. From the point of view of administration, the system would also have features for processing and listing the grievances in order of importance, assigning them to the appropriate authorities, and monitoring the solution process..

OBJECTIVES

- **Efficient Grievance Resolution:** The primary objective of the system is to create a method to sort and deal with student grievance cases quickly while making sure that they are resolved within a reasonable time frame.
- **Transparency and Accountability**: The system strives to establish transparency through visualizing the standing of the student complaints and upholding the teams' accountability by assigning of specific actions to be taken by the administrators to resolve complaints.
- **Enhanced Communication:** The system enables the tutoring coming from the education ministers and the students. Through the system, communication between students and administrators is more effective and clearer, and information related to grievances resolution is properly exchanged.
- **Improved Student Experience**: Through the implementation of such a mechanism, students can feel heard, and the ability to find solutions to their issues or discomforts is greatly increased. This ultimately leads to a more supportive and conducive learning environment[1-30].

2 LITERATURE REVIEW

Undoubtedly, the redressal of grievances is really a great boon to enhancing personnel accountability, transparency, and efficiency in different fields of operation--i.e., in ministries, institutions of higher learning, and industrial corporations. Presently, in view of adopting digitization for services, work-in-progress is found to be the basic remedy for efficient handling of resources concerned by complaints. The literature reviewed in this study has thus dealt with government grievance portals, complaints systems of universities, and troubleshooting modes in the corporate field, and an insight was provided into how they engendered the creation of the BITS e-Grievance System.

Sheth et al. (2024) state that the examination of grievance management systems was comprehensive, providing valuable insights into both administrative effectiveness andstudentsatisfaction. Furthermore, the key factors identified

Doi:10.48047/ijiee.2025.15.5.52

as impacting the effectiveness of grievance redress systems are response time, convenience, and transparency. An increase in stud ent participation in any
institution has a positive relationship with the development of accessible mediums, which, in turn, develops confidence in the system.

Bist (2024) concentrated primarily on how demographic factors influenced students' views on grievance redressal. According to the findings, students from different backgrounds have differing expectations, requiring support mechanisms that are specifically tailored to their specific needs. Also pointed out in the study was how recognized grievance committees would act to expedite redressal of complaints..

Comparative Analysis of College-Level Grievance Portals

Some college-level grievance redressal portals were studied, such as the University Grants Commission's (UGC) e-Samaadhan and the All India Council for Technical Education's (AICTE) Student Grievance Portal, to study their effectiveness. The conclusion is that these portals provide formal grievance redressal channels; unfortunately, the efficacy of these portals is hampered, as there is no follow-up, and resolving more serious complaints is time-consuming, while accessibility is limited.

User Adoption and Satisfaction in Colleges

User Acceptance and Use in Colleges Despite technical advancement, students' usage of grievance portals continues to be a haphazard affair. Studies show students avoid electronic complaint platforms due to ignorance, fear of reprisal, and lack of clarity regarding the processing of their grievances. The literature states that using various supporting channels (for example, via e-mail messages, SMS messages, and mobile apps), multilingual interfaces, and anonymous complaints will greatly increase student confidence and participation.

The above research indicates that electronic grievance systems have great potential to improve accountability, transparency, and efficiency in higher education institutions. However, low adoption rates have emerged due to bureaucratic delays, low student awareness, and limited digital access.

3 EXISTING SYSTEM

Various institutions have yet to give up traditional methods of population complaint handling, with complaints being recorded and submitted by paper, email, or call center. Though some parts have been automated into introducing digital tools, the process still remains incapable of being efficient or fully automated. Let us look at some of the commonly found grievance management systems and their corresponding challenges:

1. **Manual Complaint System** – The most traditional approach is where users fill out physical forms to be submitted to the concerned authorities. While it allows face-to-face interaction, it has its downside: It is slow and prone to mismanagement and tracking complaints is very difficult. Complaints may get lost amidst a sea of paperwork; users are left feeling helpless and frustrated.
2. **Email-Based Grievance Redressal** – Some institutions would still allow the user to complain via email. This eliminates the paperwork, but it creates other problems—emails can get buried in tons of other messages, there could be delays in response, and there is no proper means of tracking the progress of the complaint..
3. **Call Center-Based Complaint Handling** – In this case, users call a dedicated helpline against grievances. It provides for direct interaction, but long delays in answering calls, confusion regarding status updates of complaints, and the possibility of miscommunication on part of the representative makes the system less effective. Moreover, many users take issue with the fact that they often need to explain their issue multiple times to different representatives

Challenges and Limitations of the Existing System

The grievance management system in existence now is beleaguered with great adversities that slow down and render an inefficient process. The following are the listed major challenges:

1. **Delayed Resolutions** – Manual and email systems lead to the slow handling of complaints, frustrating the user who is waiting for updates.
2. **Lack of Tracking** – Once a complaint is lodged, there is no way for users to easily check the status, which creates an environment wherein users feel uncertain about their complaints, adding to the need for repeated follow-ups.
3. **High Workload for Staff** – Without automation, employees need to go through manual sorting of each and every complaint entered into the system, making it difficult for them and increasing chances of human error..
4. **Communication Gaps** – Typically, in a call center-based setup, the users will have to explain the issue over and again to different representatives, contributing to the confusion and delays.
5. **Risk of Lost Complaints**– Paperworks and email systems are all too prone to human error, resulting in complaints getting lost, blamed upon, or totally ignored.

Doi:10.48047/ijiee.2025.15.5.52

4 PROBLEM STATEMENT

Grievance systems at present like manual forms, emails, and call centers are usually very slow and inefficient. With these systems, the users cannot easily complain and track how that complaint is progressing or have their problems resolved promptly. On the other hand, institutions have many complaints: manually doing the work leads to an overload, many complaints get lost, and there are delays in the process because of its manual nature.

Hence an intelligent automated e-grievance is needed that allows users to file a complaint without hassles, provides real-time updates, and provides faster resolutions to this problem, relieving the burden on administrators.

5 PROPOSED SYSTEM

An E-Grievance System means complete computerization and automation, where making it user-friendly for introducing complaints on one end and easier administration on the other is concerned. Within the entire process, grievances that are registered are taken up, tracked in real-time, communicate in a structured manner, and receive notifications automatically..

Benefits of the Proposed System:

- Faster Resolutions - Automated processes speed grievance resolution and therefore cut the delays.
- Transparency - Users track the complaints and dismiss any second-guessing.
- Efficiency - Saves manpower and results in more streamlined and credible redressal means.
- User-Friendly Interface - The common and user-friendly design serves for easy navigation.

6 Methodology

The BITS E Grievance Redressal System is a one-stop digital platform for students where they can register their concerns and even have them resolved quickly. Most importantly, it gives equal chances to every student to be heard, thus making the grievance process smooth, transparent, and very efficient.

Key Features:

1. **Simple Complaint Registration**:

o Students will have to file a complaint through a user-friendly interface.

o All types of complaints are categorized by type, department, or urgency.

o Complaints can be tracked by a unique complaint ID.

2. **Quick Forwarding to the Right Authority**:

o Complaints are automatically sent to the relevant admin or grievance cell as a routing.

o This ensures that all unnecessary delays are discarded in the review of complaints and speedy resolution.

3.**Admin Review and Action:**

- Admins will access complete complaint details, investigate the matter, and take necessary action steps.

Complaints received will include in-depth details of the requirements for an understanding of the complaint, the process of investigation, as well as necessary action steps to be taken.

Provide students with updates pertaining to their complaint resolution and any communications from the administration.

4. **Status Updates in Real-Time:**

- Students automatically understand the status of their complaints (under review, active, or resolved).
- That keeps students informed and makes needless confusion over the process.

5. **Complaint Tracking Dashboard for Students**:

- Students will be able to view the history of complaints lodged with them, the status of that complaint, and how much longer they can expect to have to wait for resolution.
- All of these continue in making the process transparent and worthy of trust from the entire grievance system

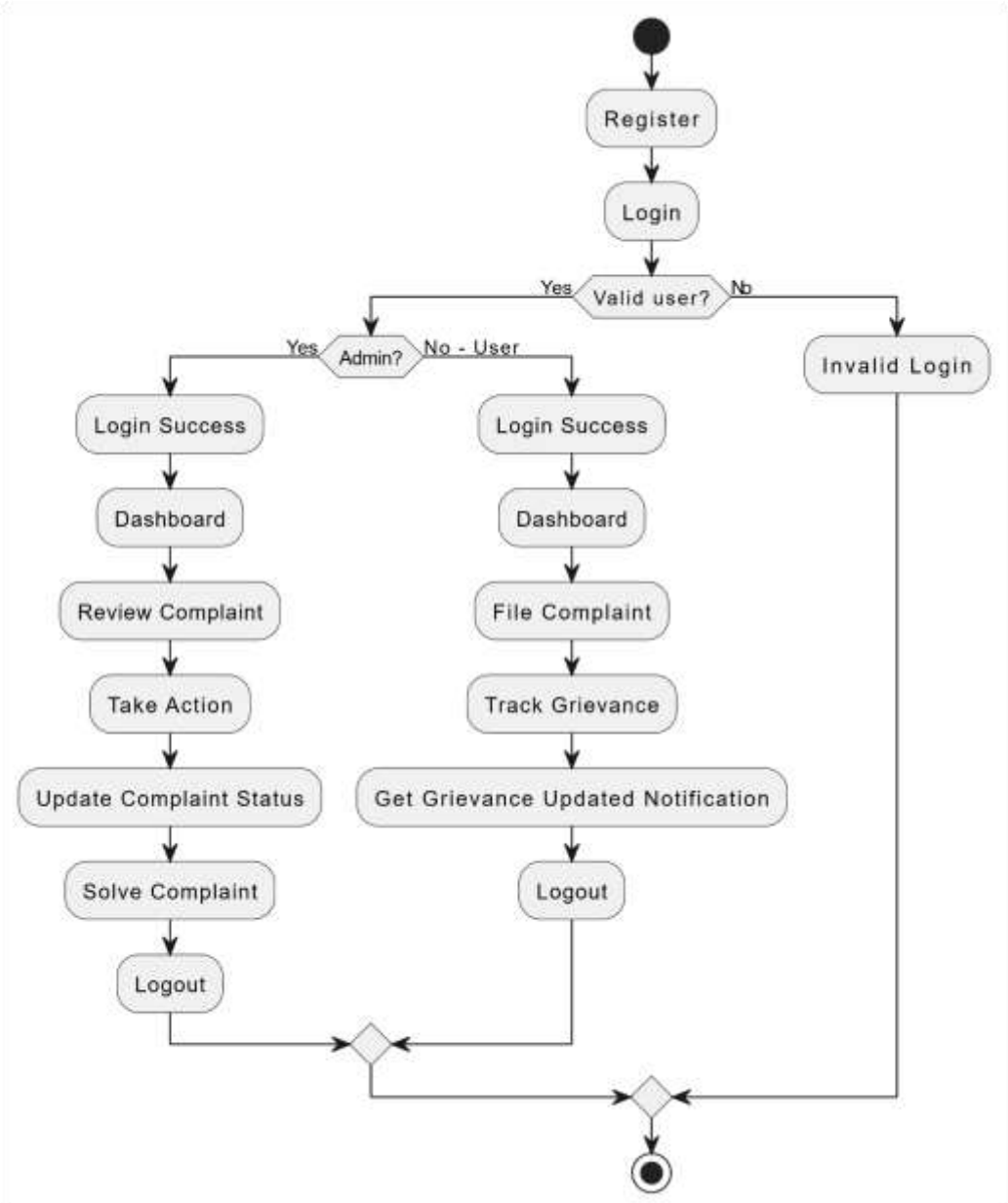
Doi:10.48047/ijiee.2025.15.5.52

o Reports can also be generated. Graphs, visual tools make the identification of common issues possible and improve the process of resolution.

7. **Communication Simplified:** Students and admins may now talk directly on the platform. They may send an update, ask for further information, or inform students of any resolution through this platform..

.

Figure.1 System Architecture



Doi:10.48047/ijiee.2025.15.5.52

TECHNOLOGIES USED

The core end technologies of the front part are formed by HTML, CSS, and JavaScript. The structure of web pages is made complete using HTML, and important elements of the application get created with it. These important components are complaint submission forms, login section, and the dashboard. This is what CSS does: for cleaning and making user friendly the complete interface, it's easy for the user to navigate through the entire system. In addition, it brings about real time updates, interactive features, and seamless communication between different parts of the system. So it is all these combined that would make any procedure smooth and more appealing to students and administrators alike.

React.js: The system front end, being a responsive fast responsive feel, is therefore developed with React.js. The idea is reusable components, where you need not reload the different parts of your interface to achieve the effectiveness of complaint tracking and notifications. Every student can now track the status of his complaints with speed and every administrator can interact with grievances in a rapid way. The virtual DOM ensures the highest performance along with smooth and snappy interactions.

Node.js and Express.js: On the back end, it makes Node.js a viable and impactful environment to service any request from the system. Express.js, which is a lightweight framework, makes all server-side casters-of-functionality such as logins, storing complaints, and sending notifications, easy to handle. This is what guarantees smoothness and efficiency in the operation of the system and finally experience of hassle-free students and administrators. Express also helps in managing secure API interactions, making sure student data remains protected.

MongoDB: This is the system database used to store grievance-related information. While traditional relational databases structure data incrementally to produce records, it allows storing complaints as documents due to their flexible structure, processing fast and scaling data access. It has been tracking complaints along with user accounts and logs of events with no performance issues. Since it includes indexing and aggregation features by default, evidence of urgent information will be easily accessed by students and administrators.

MERN Stack Integration: The system fully integrated all parts of an application that should perform high with the help of the MERN stack-MongoDB, Express.js, React.js, and Node.js. It helps to have the flow interaction of the system without delays while updating with real time on both ends. MERN allows students to file their complaints without hassle, monitor their progress, and receive all notifications relevant to their claims instantaneously. For the administrator, it is an effortless mechanism for managing all incidents as well. This makes the system not only functional but also very modern, scalable, and easy to maintain.

7 IMPLEMENTATION

HomePage:

Homepage:
The BITS E-Grievance home page is made bare for warmth and easy for navigation. With options to log in or sign up clearly provided, it makes things easier for new as well as existing users to enter the BITS E-Grievance home page.New users can quickly register through a simple sign-up form by entering their email address and password and confirming it for security. Those who already have an account can click on a readily available link to log in. In the home page, not only functionality is included but a brief introduction to the grievance redressal system is also furnished, helping users to understand how they can raise concerns and track their complaints. This response design allows the user to enjoy fluidity of experience while at it

Signup page :

The signup page is designed in a simple and convenient format. New users can quickly create accounts by entering email addresses and passwords and confirming them for safety. A register button will submit the details and login link is provided for users who already have accounts..

Login Page:

Designed keeping in mind a security-based system with seamless user experience. After entering the email and password, data goes to the server for authentication. Once validated, the database matches these credentials, and access is granted to the user.Following successful credential verification, a login button activates the authentication, with a signup link for new users also included. Error handling ensures users are properly prompted if invalid credentials are entered. The responsive design, coupled with session management, reinforces its competence across any device, with security as its priority..

Doi:10.48047/ijiee.2025.15.5.52

User grievance submission page:

Grievance Submission Page simplifies the process of reporting wrongs by users. Users fill out a simple form that captures various details of the grievance including the grievance title, description, category, and department. Grievances can also be made anonymously by users if they want privacy. Upon submission, the complaint is stored safely in the system where it is assigned a status, such as pending or being in review or resolved later. Users can check the status and view the response provided by the admin. The page maintains security, ease of navigation, and smooth functioning across all devices for a hassle-free user experience.

8 CONCLUSION

The current grievance management systems, including manual, email-based, and call center-based methods, face several challenges like delays, lack of tracking, and inefficient complaint handling. These limitations often lead to frustration for users and increased workload for administrators.

The proposed **E-Grievance System** provides a **digital, automated, and user-friendly solution** that streamlines the entire grievance redressal process. With features like **real-time tracking, automated categorization, instant notifications, and data security**, the system ensures faster resolutions, better transparency, and improved efficiency.

By adopting this modern approach, institutions can significantly enhance user satisfaction, reduce processing time, and create a more structured and effective grievance redressal framework. This system is a **step towards a smarter, more accountable, and responsive grievance management process.**

FUTURE SCOPE:

Future projects designed for the extension of the BITS E-Grievance will incorporate some of these additional features to ensure maximum efficiency and transparency. An AI-enabled complaint management system could introduce self-assignment of complaints and self-response, while the wonderbot will provide immediate feedback and updates in real-time. With the introduction of Blockchain, the students' status updates can be transferred into a secure channel routed with transparent grievance management records. Indeed, an application on mobile phones will enable students to complain, check updates states, and receive notifications. Predictive analytics would also help in surfacing chronic problems and possible proactive remedial attempts. Multi-language and accessibility provisions will see to it that inclusivity is guaranteed for all students. Also, with the merging of institutable ERP systems, there would open in the very near future an efficient pathway of authenticating students and grievance management. The feedback also allows students to rate and comment on the whole grievance resolution process, encouraging the encouragement of further improvements in this area. They all put together in BITS E-Grievance and make it much smarter, faster, and more effective.

9 REFERENCES

1. Ramdas Vankdothu,Dr.Mohd Abdul Hameed, Husnah Fatima" A Brain Tumor Identification and Classification Using Deep Learning based on CNN-LSTM Method" Computers and Electrical Engineering , 101 (2022) 107960
2. Ramdas Vankdothu,.Mohd Abdul Hameed "Adaptive features selection and EDNN based brain image recognition on the internet of medical things", Computers and Electrical Engineering , 103 (2022) 108338.
3. Ramdas Vankdothu,.Mohd Abdul Hameed,Ayesha Ameen,Raheem,Unnisa " Brain image identification and classification on Internet of Medical Things in healthcare system using support value based deep neural network" Computers and Electrical Engineering,102(2022) 108196.
4. Ramdas Vankdothu,.Mohd Abdul Hameed" Brain tumor segmentation of MR images using SVM and fuzzy

Doi:10.48047/ijiee.2025.15.5.52

classifier in machine learning" Measurement: Sensors Journal,Volume 24, 2022, 100440 .

5. Ramdas Vankdothu,.Mohd Abdul Hameed" Brain tumor MRI images identification and classification based on the recurrent convolutional neural network" Measurement: Sensors Journal,Volume 24, 2022, 100412 .
6. Bhukya Madhu, M.Venu Gopala Chari, Ramdas Vankdothu,.Arun Kumar Silivery,Veerender Aerranagula " Intrusion detection models for IOT networks via deep learning approaches " Measurement: Sensors Journal,Volume 25, 2022, 100641
7. Mohd Thousif Ahemad ,Mohd Abdul Hameed, Ramdas Vankdothu" COVID-19 detection and classification for machine learning methods using human genomic data" Measurement: Sensors Journal,Volume 24, 2022, 100537
8. S. Rakesh [a], NagaratnaP. Hegde [b], M. VenuGopalachari [c], D. Jayaram [c], Bhukya Madhu [d], MohdAbdul Hamee d [a], Ramdas Vankdothu [e], L.K. Suresh Kumar "Moving object detection using modified GMM based background subtraction" Measurement: Sensors ,Journal,Volume 30, 2023, 100898
9. Ramdas Vankdothu,Dr.Mohd Abdul Hameed, Husnah Fatima "Efficient Detection of Brain Tumor Using Unsupervised Modified Deep Belief Network in Big Data" Journal of Adv Research in Dynamical & Control Systems, Vol. 12, 2020.
10. Ramdas Vankdothu,Dr.Mohd Abdul Hameed, Husnah Fatima "Internet of Medical Things of Brain Image Recognition Algorithm and High Performance Computing by Convolutional Neural Network" International Journal of Advanced Science and Technology, Vol. 29, No. 6, (2020), pp. 2875 – 2881
11. Ramdas Vankdothu,Dr.Mohd Abdul Hameed, Husnah Fatima "Convolutional Neural Network-Based Brain Image Recognition Algorithm And High-Performance Computing", Journal Of Critical Reviews,Vol 7, Issue 08, 2020(Scopus Indexed)
12. Ramdas Vankdothu, Dr.Mohd Abdul Hameed "A Security Applicable with Deep Learning Algorithm for Big Data Analysis",Test Engineering & Management Journal,January-February 2020
13. Ramdas Vankdothu, G. Shyama Chandra Prasad " A Study on Privacy Applicable Deep Learning Schemes for Big Data" Complexity International Journal, Volume 23, Issue 2, July-August 2019
14. Ramdas Vankdothu, Dr.Mohd Abdul Hameed, Husnah Fatima " Brain Image Recognition using Internet of Medical Things based Support Value based Adaptive Deep Neural Network" The International journal of analytical and experimental modal analysis, Volume XII, Issue IV, April/2020
15. Ramdas Vankdothu,Dr.Mohd Abdul Hameed, Husnah Fatima" Adaptive Features Selection and EDNN based Brain Image Recognition In Internet Of Medical Things " Journal of Engineering Sciences, Vol 11,Issue 4 , April/ 2020(UGC Care Journal)
16. Ramdas Vankdothu, Dr.Mohd Abdul Hameed " Implementation of a Privacy based Deep Learning Algorithm for Big Data Analytics", Complexity International Journal , Volume 24, Issue 01, Jan 2020
17. Ramdas Vankdothu, G. Shyama Chandra Prasad" A Survey On Big Data Analytics: Challenges, Open Research Issues and Tools" International Journal For Innovative Engineering and Management Research,Vol 08 Issue08, Aug 2019.
18. Vankdothu, R., Hameed, M.A. "An Effective Congestion and Interference Secure Routing Protocol for Internet of Things Applications in Wireless Sensor Network " Wireless Personal Communication Journal 140,

Doi:10.48047/ijiee.2025.15.5.52

143–161 (2025)

19. Vankdothu, R., Bhukya, H. & Bhukya, R.R. “Hybrid TDR-MI Based Wireless Sensor Network for Underground Water Pipeline Leakage Detection and Localization Using Pressure Residuals and Classifiers Wireless Personal Communications 139, 803–823 (2024).
20. Vankdothu, R., Cheng, X. “Energy Efficient TDMA and Secure Based MAC Protocol for WSN Using AQL Coding and ASGWI Clustering”. Wireless Personal Communications 136, 2125–2143 (2024)
21. Vankdothu, R., Hameed, M.A., Fatima, H. *et al.* Multicast Scaling in Heterogeneous Wireless Sensor Networks for Security and Time Efficiency. Wireless Personal Communications (2025).
22. Vankdothu, R., Hameed, M.A., Fatima, H. *et al.* Multicast Scaling in Heterogeneous Wireless Sensor Networks for Security and Time Efficiency. Wireless Personal Communications (2025)
23. Ramdas Vankdothu, Mohd Abdul Hameed” Brain MRI Images for Tumor Detection using Storage Optimization Technique”,Mobile Radio Communications and 5G Networks,Lecture Notes in Networks and Systems,425-437, Springer .
24. Bandi Krishna , Ramdas Vankdothu , Varun Revuri and B. Prashanth” A brain tumor identification using convolution neural network in the deep learning” MATEC Web of Conferences 392, 01131 (2024) ,https://doi.org/10.1051/matecconf/202439201131 ICMED 2024
25. Neha Singhal, Akshay S, Samarth A, “Web-based Grievance Redressal System in Educational Institutions,” *Journal of Emerging Technologies and Innovative Research (JETIR),* Volume 11, Issue 5, 2024.
26. Nripendra P. Rana, Michael D. Williams, Yogesh K. Dwivedi, “Evaluating Online Public Grievance Redressal System in India,” *UKAIS Conference Proceedings,* 2013.
27. Subhash Chander, Ashwani Kush, “Assessing Grievances Redressing Mechanism in India,” *ResearchGate,* 2012.
28. Sushmita Bist, “Analysis of Grievance Management Systems in Higher Education,” *Journal of Emerging Technologies and Innovative Research (JETIR),* 2024.
29. Chandresh Bind, Chirag Goyal, Ayush Rai, “Strategic Online Grievance Redressal System for Colleges,” *International Journal of Science, Engineering, and Technology (IJSET),* Volume 12, Issue 2, 2024.
30. MukeshBuldak et al., “Online Complaint Management System in Colleges,” *International Journal of Engineering Research and Technology (IJERT),* 2019.

BIBILOGRAPHY

Lakhi chandermamidi I am currently in my 6th semester of Computer Science in the Bachelor’s Degree at Institute of Technology and Science. My research interest is done based on “BITS E-GRIEVANCE”

Doi:10.48047/ijiee.2025.15.5.52

navya I am currently in my 6th semester of Computer Science in the Bachelor's Degree at Balaji e of Technology and Science. My research interest is done based on "BITS E-GRIEVANCE"

V.pallavi I am currently in my 6th semester of Computer Science in the Bachelor's Degree at Balaji ute of Technology and Science. My research interest is done based on "BITS E-GRIEVANCE"

.varshith raj I am currently in my 6th semester of Computer Science in the Bachelor's Degree atBalaji te of Technology and Science. My research interest is done based on "BITS E-GRIEVANCE"

andI am currently in my 6th semester of Computer Science in the Bachelor'sDegreeat titute of Technology and Science. My research interest is done based on "BITS E-GRIEVANCE"

Doi:10.48047/ijiee.2025.15.5.52