

SPLITEASY

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Abstract. The primary purpose of this project is to streamline the process of calculating individual shares of various expenses, reducing potential conflicts and ensuring transparency. Users can input their expenses, and the application automatically divides the total amount among the participants based on predefined criteria, such as equal shares or specific contributions. 1[This functionality is particularly useful for managing shared household bills, planning group events, and coordinating travel budgets. By offering a user-friendly interface and robust backend support, the project simplifies the tracking of who owes what, automates reimbursement management, and ensures that financial coordination in group settings is more efficient and stress-free.]1 It addresses common pain points in group expense management, such as calculating individual contributions, keeping track of payments, and ensuring everyone pays their fair share. This makes it an ideal tool for friends, families, roommates, or any group that shares financial responsibilities.

INTRODUCTION

The primary problem addressed by this project is the challenge of efficiently and transparently managing shared expenses among groups, such as friends, families, or roommates. In group settings, coordinating financial contributions and ensuring that everyone pays their fair share can be complex and stressful. 2[This is particularly true when calculating individual shares of various expenses, tracking who owes what, and managing reimbursements.]2 The project aims to solve these issues by providing a user-friendly application that automates the division of expenses based on predefined criteria, reducing potential conflicts and simplifying financial management in group settings.

RESEARCH METHODOLOGY

A system that automates the management of shared expenses, particularly for group activities like trips or events. 3[The methodology involved analyzing common challenges in group expense tracking, such as ensuring fairness and reducing conflicts when calculating who owes what. Based on this analysis, the system architecture was designed using Node.js as the backend, PostgreSQL for storing relational data. while the Express framework enabled routing and API endpoint management.]3 The methodology also included researching best practices for database transaction management and user authentication to ensure data integrity and security.

THEORY AND CALCULATION

The theoretical basis of the system centers around the need to fairly divide expenses between users based on their contributions or predefined ratios. In practice, this is done using relational database models to store users, trips, and transactions, and query calculations to aggregate amounts and associate users with their debts or credits. Database operations are wrapped in transactions to ensure that any errors do not leave the database in an inconsistent state. 4[The calculations for splitting expenses between users rely on structured queries in PostgreSQL, which aggregate debts and determine who owes or is owed by whom]4.

RESULTS AND DISCUSSION

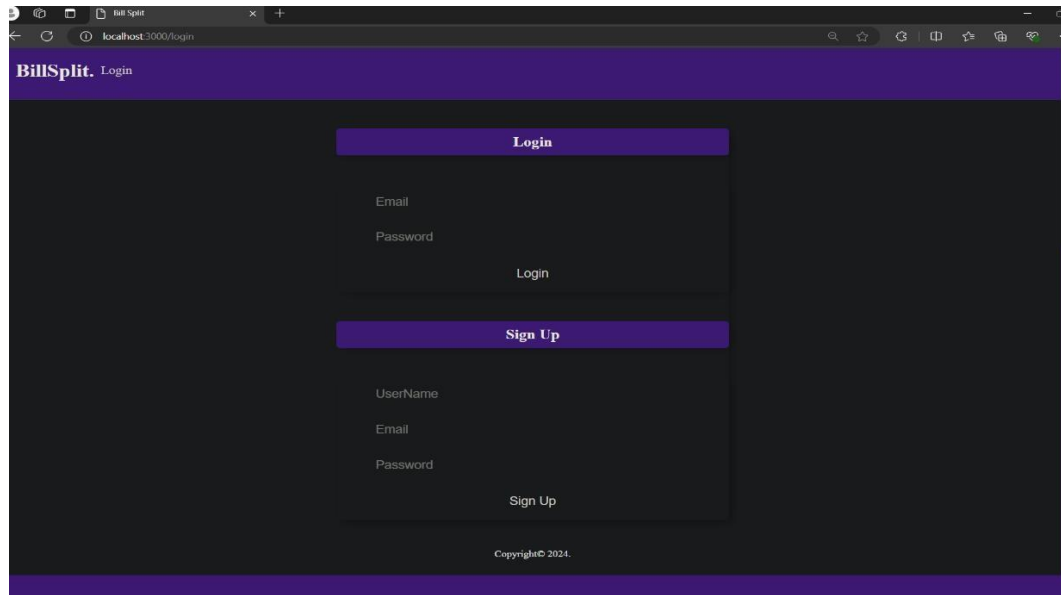
The results of implementing this system are evident in its ability to simplify and automate group expense tracking. Users can register, log in, create trips, add transactions, and track shared expenses between multiple participants. Each user's contribution is calculated, and the system ensures transparency in showing how much each person owes or has lent. This results in an easy-to-use platform that eliminates confusion and manual tracking, making financial coordination smoother for users. Error handling, such as database rollbacks, ensures that incomplete transactions do not affect the integrity of data. By allowing users to view detailed breakdowns of transactions, the system provides a clear, reliable interface for managing group finances.

LITERATURE SURVEY

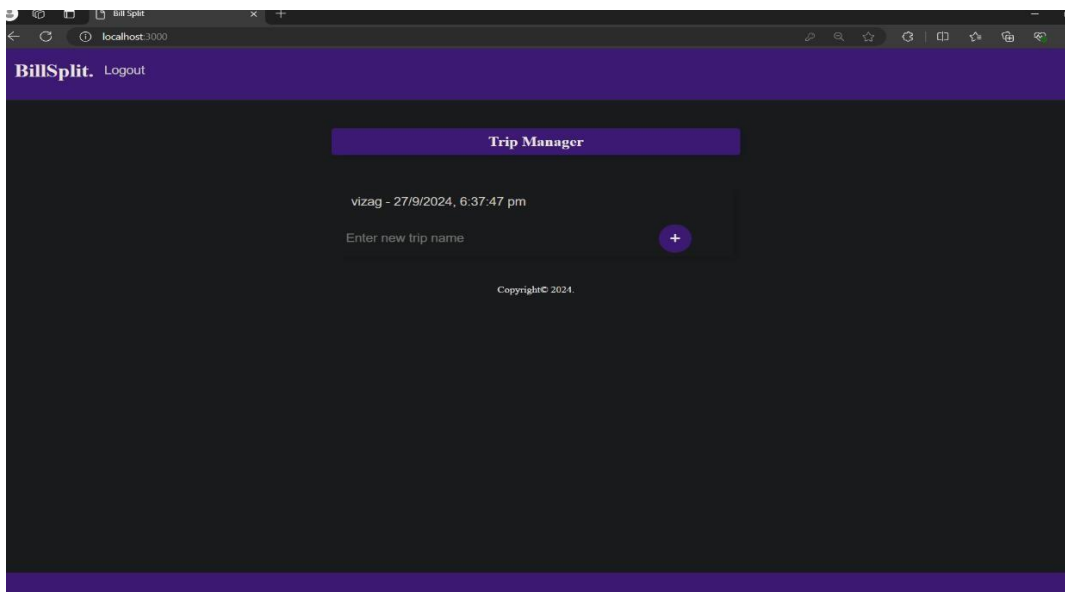
Publisher	Title of paper	year	Limitations	Authors
IEEE	splitting of bills and managing expenditure	2023	User Input Accuracy: The web application's effectiveness depends on correct user inputs; errors can lead to flawed calculations.	<ol style="list-style-type: none"> 1. Swaraj mahindre 2. stuti Gupta 3. Shruti Thakur
TROI	Bill Splitting and expense managing assistant	2020	Limited Flexibility: The web application may not handle complex or customized expense division scenarios effectively.	<ol style="list-style-type: none"> 1. Rishabh Agarwal

Formatting Figures

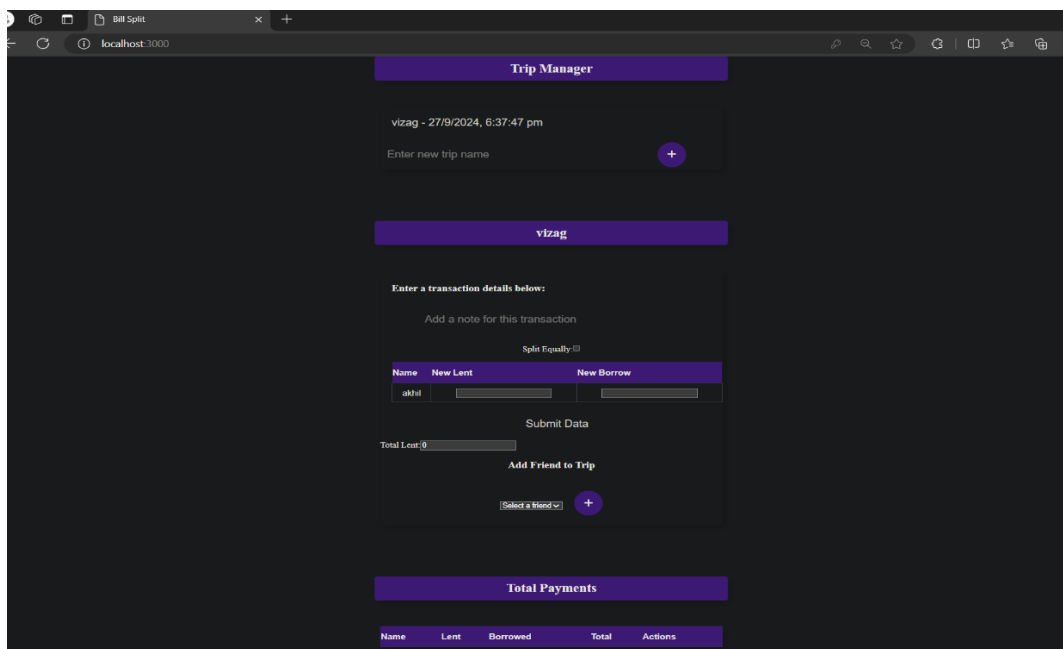
1. Login page



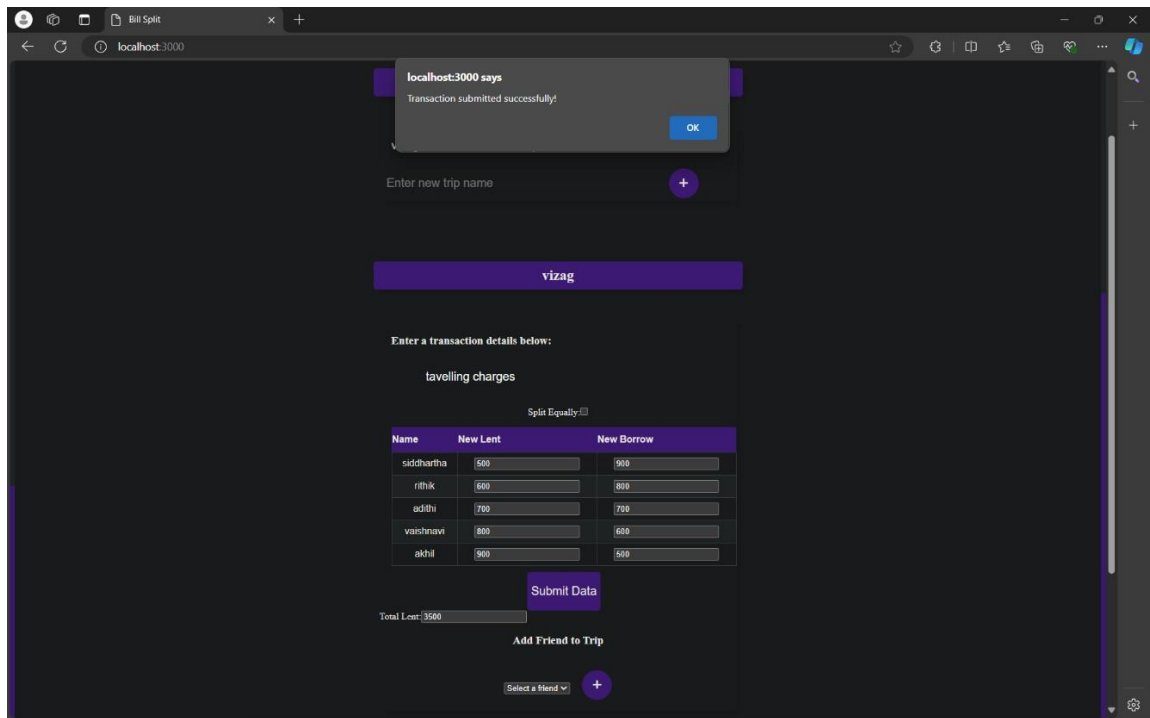
2. Create your trip



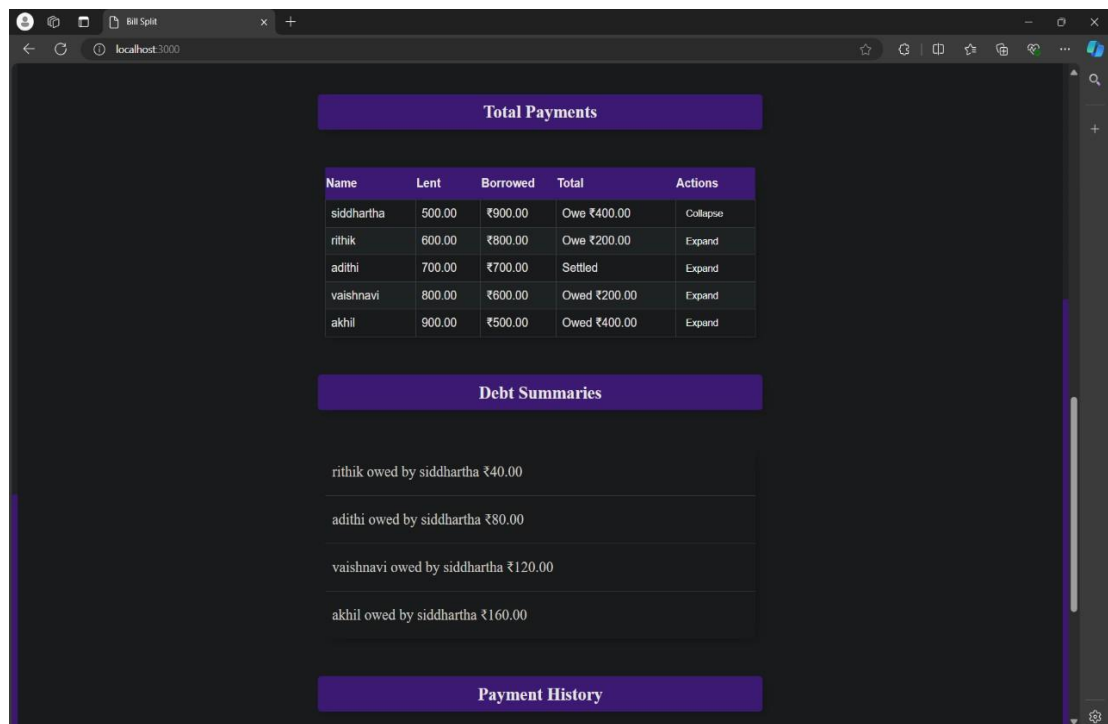
3. Trip Home page



4. Add friends(participants)



5. Splitting the Expenses



6. Payment History

vaishnavi owes siddhartha ₹0.00

Payment History				
Date	Amount	Note	Details	Actions
27/9/2024, 6:50:32 pm	₹2500.00	food day-1	<ul style="list-style-type: none"> siddhartha: Lent ₹700.00 Borrowed ₹300.00 adithi: Lent ₹500.00 Borrowed ₹500.00 vaishnavi: Lent ₹400.00 Borrowed ₹600.00 akhil: Lent ₹300.00 Borrowed ₹700.00 rithik: Lent ₹600.00 Borrowed ₹400.00 	Delete Edit
27/9/2024, 6:47:06 pm	₹3500.00	tavelling charges	<ul style="list-style-type: none"> siddhartha: Lent ₹500.00 Borrowed ₹900.00 vaishnavi: Lent ₹800.00 Borrowed ₹600.00 rithik: Lent ₹600.00 Borrowed ₹800.00 adithi: Lent ₹700.00 Borrowed ₹700.00 akhil: Lent ₹900.00 Borrowed ₹500.00 	Delete Edit

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CONCLUSION

In conclusion, this project successfully implements a reliable and secure solution for tracking and managing shared group expenses. By employing a combination of technologies such as Expressjs PostgreSQL the system handles both user authentication and financial calculations with strong backend support. The application's design addresses the major pain points in managing shared expenses, such as fairness, transparency, and ease of use, and reduces the manual effort involved in keeping track of payments. The code demonstrates a practical solution that can be expanded upon with additional features like notifications, more flexible user roles, and improved reporting. The project successfully reduces conflicts in group financial management by streamlining the entire process through automation.

REFERENCES

- Raj, R. S., & Raju, G. P. (2014, December). An approach for optimization of resource management in Hadoop. In *International Conference on Computing and Communication Technologies* (pp. 1-5). IEEE.
- Ujwala, B., & Reddy, P. R. S. (2016). An effective mechanism for integrity of data sanitization process in the cloud. *European Journal of Advances in Engineering and Technology*, 3(8), 82-84.
- Reddy, P. R. S., Bhoga, U., Reddy, A. M., & Rao, P. R. (2017). OER: Open Educational Resources for Effective Content Management and Delivery. *Journal of Engineering Education Transformations*, 30(3).
- Reddy, A. V. B., & Ujwala, B. Answering Xml Query Using Tree Based Association Rules.
- Reddy, P. R. S., Reddy, A. M., & Ujwala, B. IDENTITY PRESERVING IN DYNAMIC GROUPS FOR DATA SHARING AND AUDITING IN CLOUD.
- CHITHANURU, V. A review on the use of English language as an important factor in academic writing.
- Mahammad, F. S., Viswanatham, V. M., Tahseen, A., Devi, M. S., & Kumar, M. A. (2024, July). Key distribution scheme for preventing key reinstallation attack in wireless networks. In *AIP Conference Proceedings* (Vol. 3028, No. 1). AIP Publishing.
- Tahseen, A., Shailaja, S. R., & Ashwini, Y. (2023, December). Security-Aware Information Classification Using Attributes Extraction for Big Data Cyber Security Analytics. In *International Conference on Advances in Computational Intelligence and Informatics* (pp. 365-373). Singapore: Springer Nature Singapore.

9. Tahseen, A., Shailaja, S. R., & Ashwini, Y. Extraction for Big Data Cyber Security Analytics. *Advances in Computational Intelligence and Informatics: Proceedings of ICACII 2023*, 993, 365.
10. Keshamma, E., Rohini, S., Rao, K. S., Madhusudhan, B., & Kumar, M. U. (2008). Molecular biology and physiology tissue culture-independent In Planta transformation strategy: an *Agrobacterium tumefaciens*-mediated gene transfer method to overcome recalcitrance in cotton (*Gossypium hirsutum* L.). *J Cotton Sci*, 12, 264-272.
11. Sreevathsa, R., Sharma, P. D., Keshamma, E., & Kumar, U. (2008). In planta transformation of pigeon pea: a method to overcome recalcitrancy of the crop to regeneration in vitro. *Physiology and Molecular Biology of Plants: an International Journal of Functional Plant Biology*, 14(4), 321-328.
12. Keshamma, E., Sreevathsa, R., Kumar, A. M., Reddy, K. N., Manjulatha, M., Shanmugam, N. B., ... & Udayakumar, M. (2012). *Agrobacterium*-mediated in planta transformation of field bean (*Lablab purpureus* L.) and recovery of stable transgenic plants expressing the cry 1AcF gene. *Plant Molecular Biology Reporter*, 30, 67-78.
13. Gopinandhan, T. N., Keshamma, E., Velmourougane, K., & Raghuramulu, Y. (2006). Coffee husk-a potential source of ochratoxin A contamination.
14. Kumar, J. P., Rao, C. M. P., Singh, R. K., Garg, A., & Rajeswari, T. (2024). A comprehensive review on blood brain delivery methods using nanotechnology. *Tropical Journal of Pharmaceutical and Life Sciences*, 11(3), 43-52.
15. Jeslin, D., Prema, S., Ismail, Y., Panigrahy, U. P., Vijayamma, G., RS, C., ... & Kumar, J. P. (2022). ANALYTICAL METHOD VALIDATION OF DISSOLUTION METHOD FOR THE DETERMINATION OF% DRUG RELEASE IN DASATINIB TABLETS 20MG, 50MG AND 70MG BY HPLC. *Journal of Pharmaceutical Negative Results*, 2722-2732.
16. Kumar, J., Dutta, S., Sundaram, V., Saini, S. S., Sharma, R. R., & Varma, N. (2019). intraventricular hemorrhage compared with 9.1% in the restrictive group (P= .034).". *Pediatrics*, 144(2), 1.
17. Kumar, J. P., Rao, C. M. P., Singh, R. K., Garg, A., & Rajeswari, T. A brief review on encapsulation of natural poly-phenolic compounds.
18. KP, A., & John, J. (2021). The Impact Of COVID-19 On Children And Adolescents: An Indianperspectives And Reminiscent Model. *Int. J. of Aquatic Science*, 12(2), 472-482.
19. John, J., & Akhila, K. P. (2019). Deprivation of Social Justice among Sexually Abused Girls: A Background Study.
20. Akhila, K. P., & John, J. Deliberate democracy and the MeToo movement: Examining the impact of social media feminist discourses in India. In *The Routledge International Handbook of Feminisms in Social Work* (pp. 513-525). Routledge.
21. Akhila, K. P., & John, J. Impact of Pandemic on Child Protection-A Response to COVID-19.
22. Murthy, G. V. K., Sivanagaraju, S., Satyanarayana, S., & Rao, B. H. (2012). Reliability improvement of radial distribution system with distributed generation. *International Journal of Engineering Science and Technology (IJEST)*, 4(09), 4003-4011.
23. Gowda, B. M. V., Murthy, G. V. K., Upadhye, A. S., & Raghavan, R. (1996). Serotypes of *Escherichia coli* from pathological conditions in poultry and their antibiogram.
24. Balasubbareddy, M., Murthy, G. V. K., & Kumar, K. S. (2021). Performance evaluation of different structures of power system stabilizers. *International Journal of Electrical and Computer Engineering (IJECE)*, 11(1), 114-123.
25. Murthy, G. V. K., & Sivanagaraju, S. (2012). S. Satyana rayana, B. Hanumantha Rao," Voltage stability index of radial distribution networks with distributed generation,". *Int. J. Electr. Eng*, 5(6), 791-803.
26. Anuja, P. S., Kiran, V. U., Kalavathi, C., Murthy, G. N., & Kumari, G. S. (2015). Design of elliptical patch antenna with single & double U-slot for wireless applications: a comparative approach. *International Journal of Computer Science and Network Security (IJCSNS)*, 15(2), 60.
27. Murthy, G. V. K., Sivanagaraju, S., Satyanarayana, S., & Rao, B. H. (2015). Voltage stability enhancement of distribution system using network reconfiguration in the presence of DG. *Distributed Generation & Alternative Energy Journal*, 30(4), 37-54.
28. Reddy, C. N. K., & Murthy, G. V. (2012). Evaluation of Behavioral Security in Cloud Computing. *International Journal of Computer Science and Information Technologies*, 3(2), 3328-3333.
29. Madhavi, M., & Murthy, G. V. (2020). Role of certifications in improving the quality of Education in Outcome Based Education. *Journal of Engineering Education Transformations*, 33(Special Issue).
30. Varaprasad Rao, M., Srujan Raju, K., Vishnu Murthy, G., & Kavitha Rani, B. (2020). Configure and management of internet of things. In *Data Engineering and Communication Technology: Proceedings of 3rd ICDECT-2K19* (pp. 163-172). Springer Singapore.
31. Murthy, G. V. K., Suresh, C. H. V., Sowjankumar, K., & Hanumantharao, B. (2019). Impact of distributed generation on unbalanced radial distribution system. *International Journal of Scientific and Technology Research*, 8(9), 539-542.
32. Siva Prasad, B. V. V., Mandapati, S., Kumar Ramasamy, L., Boddu, R., Reddy, P., & Suresh Kumar, B. (2023). Ensemble-based cryptography for soldiers' health monitoring using mobile ad hoc networks. *Automatika: časopis za automatiku, mjerenje, elektroniku, računarstvo i komunikacije*, 64(3), 658-671.

33. Siva Prasad, B. V. V., Sucharitha, G., Venkatesan, K. G. S., Patnala, T. R., Murari, T., & Karanam, S. R. (2022). Optimisation of the execution time using hadoop-based parallel machine learning on computing clusters. In *Computer Networks, Big Data and IoT: Proceedings of ICCBI 2021* (pp. 233-244). Singapore: Springer Nature Singapore.
34. Prasad, B. V., & Ali, S. S. (2017). Software-defined networking based secure routing in mobile ad hoc network. *International Journal of Engineering & Technology*, 7(1.2), 229.
35. Elechi, P., & Onu, K. E. (2022). Unmanned Aerial Vehicle Cellular Communication Operating in Non-terrestrial Networks. In *Unmanned Aerial Vehicle Cellular Communications* (pp. 225-251). Cham: Springer International Publishing.
36. Prasad, B. V. V. S., Mandapati, S., Haritha, B., & Begum, M. J. (2020, August). Enhanced Security for the authentication of Digital Signature from the key generated by the CSTRNG method. In *2020 Third International Conference on Smart Systems and Inventive Technology (ICSSIT)* (pp. 1088-1093). IEEE.
37. Alapati, N., Prasad, B. V. V. S., Sharma, A., Kumari, G. R. P., Veeneetha, S. V., Srivalli, N., ... & Sahitya, D. (2022, November). Prediction of Flight-fare using machine learning. In *2022 International Conference on Fourth Industrial Revolution Based Technology and Practices (ICFIRTP)* (pp. 134-138). IEEE.
38. Alapati, N., Prasad, B. V. V. S., Sharma, A., Kumari, G. R. P., Bhargavi, P. J., Alekhya, A., ... & Nandini, K. (2022, November). Cardiovascular Disease Prediction using machine learning. In *2022 International Conference on Fourth Industrial Revolution Based Technology and Practices (ICFIRTP)* (pp. 60-66). IEEE.
39. Mukiri, R. R., Kumar, B. S., & Prasad, B. V. V. (2019, February). Effective Data Collaborative Strain Using RecTree Algorithm. In *Proceedings of International Conference on Sustainable Computing in Science, Technology and Management (SUSCOM), Amity University Rajasthan, Jaipur-India*.
40. Rao, B. T., Prasad, B. V. V. S., & Peram, S. R. (2019). Elegant Energy Competent Lighting in Green Buildings Based on Energetic Power Control Using IoT Design. In *Smart Intelligent Computing and Applications: Proceedings of the Second International Conference on SCI2018, Volume 1* (pp. 247-257). Springer Singapore.
41. Someswar, G. M., & Prasad, B. V. V. S. (2017, October). USVGM protocol with two layer architecture for efficient network management in MANET'S. In *2017 2nd International Conference on Communication and Electronics Systems (ICCES)* (pp. 738-741). IEEE.
42. Balram, G., Anitha, S., & Deshmukh, A. (2020, December). Utilization of renewable energy sources in generation and distribution optimization. In *IOP Conference Series: Materials Science and Engineering* (Vol. 981, No. 4, p. 042054). IOP Publishing.
43. Hnamte, V., & Balram, G. (2022). Implementation of Naive Bayes Classifier for Reducing DDoS Attacks in IoT Networks. *Journal of Algebraic Statistics*, 13(2), 2749-2757.
44. Balram, G., Poornachandrarao, N., Ganesh, D., Nagesh, B., Basi, R. A., & Kumar, M. S. (2024, September). Application of Machine Learning Techniques for Heavy Rainfall Prediction using Satellite Data. In *2024 5th International Conference on Smart Electronics and Communication (ICOSEC)* (pp. 1081-1087). IEEE.
45. Subrahmanyam, V., Sagar, M., Balram, G., Ramana, J. V., Tejaswi, S., & Mohammad, H. P. (2024, May). An Efficient Reliable Data Communication For Unmanned Air Vehicles (UAV) Enabled Industry Internet of Things (IIoT). In *2024 3rd International Conference on Artificial Intelligence For Internet of Things (AIIoT)* (pp. 1-4). IEEE.
46. KATIKA, R., & BALRAM, G. (2013). Video Multicasting Framework for Extended Wireless Mesh Networks Environment. *pp-427-434, IJSRET*, 2(7).
47. Prasad, P. S., & Rao, S. K. M. (2017). HIASA: Hybrid improved artificial bee colony and simulated annealing based attack detection algorithm in mobile ad-hoc networks (MANETs). *Bonfring International Journal of Industrial Engineering and Management Science*, 7(2), 01-12.
48. Prasad, P. S., & Rao, S. K. M. (2017). A Survey on Performance Analysis of ManetsUnder Security Attacks. *network*, 6(7).
49. Sheta, S. V. (2021). Investigating Open-Source Contributions to Software Innovation and Collaboration. *International Journal of Computer Science and Engineering Research and Development (IJCSERD)*, 11(1), 46-54.
50. Sheta, S. V. (2021). Artificial Intelligence Applications in Behavioral Analysis for Advancing User Experience Design. *ISCSITR-INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE (ISCSITR-IJAI)*, 2(1), 1-16.
51. Ingle, S. D., & Tohare, S. P. (2022). Geological investigation in the Bhuleshwari River Basin, Amravati District, Maharashtra. *World Journal of Advanced Research and Reviews*, 16(3), 757-766.
52. Ingle, S. D. Hydrogeological Investigations in the Bhuleshwari River Basin with Emphasis on Groundwater Management Amravati District Maharashtra.
53. Ingle, S. D., & Jadhav, K. A. Evaluating The Performance of Artificial Recharge Structures Towards Ground Water Recharge in Amravati District, Maharashtra.
54. Ingle, S. D. GEOPHYSICAL INVESTIGATION IN THE BHULESHWARI RIVER BASIN, AMRAVATI DISTRICT, MAHARASHTRA.
55. Vaddadi, S. A., Thatikonda, R., Padthe, A., & Arnepalli, P. R. R. (2023). Shift left testing paradigm process implementation for quality of software based on fuzzy. *Soft Computing*, 1-13.

56. Vaddadi, S., Arnepalli, P. R., Thatikonda, R., & Padthe, A. (2022). Effective malware detection approach based on deep learning in Cyber-Physical Systems. *International Journal of Computer Science and Information Technology*, 14(6), 01-12.
57. Yendluri, D. K., Ponnala, J., Thatikonda, R., Kempanna, M., Tatikonda, R., & Bhuvanesh, A. (2023, November). Impact of Robotic Process Automation on Enterprise Resource Planning Systems. In *2023 International Conference on the Confluence of Advancements in Robotics, Vision and Interdisciplinary Technology Management (IC-RVITM)* (pp. 1-6). IEEE.
58. Yendluri, D. K., Tatikonda, R., Thatikonda, R., Ponnala, J., Kempanna, M., & Bhuvanesh, A. (2023, December). Integration of SAP and Intelligent Robotic Process Automation. In *2023 International Conference on Next Generation Electronics (NEleX)* (pp. 1-6). IEEE.
59. Rao, P. R., Kumar, K. H., & Reddy, P. R. S. (2012). Query decomposition and data localization issues in cloud computing. *International Journal*, 2(9).
60. Reddy, P. R. S., & Ravindranath, K. (2024). Enhancing Secure and Reliable Data Transfer through Robust Integrity. *Journal of Electrical Systems*, 20(1s), 900-910.
61. REDDY, P. R. S., & RAVINDRANATH, K. (2022). A HYBRID VERIFIED RE-ENCRYPTION INVOLVED PROXY SERVER TO ORGANIZE THE GROUP DYNAMICS: SHARING AND REVOCATION. *Journal of Theoretical and Applied Information Technology*, 100(13).
62. Reddy, P. R. S., Ram, V. S. S., Greshma, V., & Kumar, K. S. Prediction of Heart Healthiness.
63. Reddy, P. R. S., Reddy, A. M., & Ujwala, B. IDENTITY PRESERVING IN DYNAMIC GROUPS FOR DATA SHARING AND AUDITING IN CLOUD.
64. Madhuri, K., Viswanath, N. K., & Gayatri, P. U. (2016, November). Performance evaluation of AODV under Black hole attack in MANET using NS2. In *2016 international conference on ICT in Business Industry & Government (ICTBIG)* (pp. 1-3). IEEE.
65. Kovoov, M., Durairaj, M., Karyakarte, M. S., Hussain, M. Z., Ashraf, M., & Maguluri, L. P. (2024). Sensor-enhanced wearables and automated analytics for injury prevention in sports. *Measurement: Sensors*, 32, 101054.
66. Rao, N. R., Kovoov, M., Kishor Kumar, G. N., & Parameswari, D. V. L. (2023). Security and privacy in smart farming: challenges and opportunities. *International Journal on Recent and Innovation Trends in Computing and Communication*, 11(7 S).
67. Madhuri, K. (2023). Security Threats and Detection Mechanisms in Machine Learning. *Handbook of Artificial Intelligence*, 255.
68. Madhuri, K. (2022). A New Level Intrusion Detection System for Node Level Drop Attacks in Wireless Sensor Network. *Journal of Algebraic Statistics*, 13(1), 159-168.
69. Selvan, M. A. (2021). Robust Cyber Attack Detection with Support Vector Machines: Tackling Both Established and Novel Threats.
70. Selvan, M. A. (2023). INDUSTRY-SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM.
71. Selvan, M. Arul. "PHISHING CONTENT CLASSIFICATION USING DYNAMIC WEIGHTING AND GENETIC RANKING OPTIMIZATION ALGORITHM." (2024).
72. Selvan, M. Arul. "Innovative Approaches in Cardiovascular Disease Prediction Through Machine Learning Optimization." (2024).
73. FELIX, ARUL SELVAN M. Mr D., and XAVIER DHAS Mr S. KALAIIVANAN. "Averting Eavesdrop Intrusion in Industrial Wireless Sensor Networks."
74. Yakoob, S., Krishna Reddy, V., & Dastagiraiiah, C. (2017). Multi User Authentication in Reliable Data Storage in Cloud. In *Computer Communication, Networking and Internet Security: Proceedings of IC3T 2016* (pp. 531-539). Springer Singapore.
75. DASTAGIRIAH, D. (2024). A SYSTEM FOR ANALYSING CALL DROP DYNAMICS IN THE TELECOM INDUSTRY USING MACHINE LEARNING AND FEATURE SELECTION. *Journal of Theoretical and Applied Information Technology*, 102(22).
76. Sukhavasi, V., Kulkarni, S., Raghavendran, V., Dastagiraiiah, C., Apat, S. K., & Reddy, P. C. S. (2024). Malignancy Detection in Lung and Colon Histopathology Images by Transfer Learning with Class Selective Image Processing.
77. Sudhakar, R. V., Dastagiraiiah, C., Patten, S., & Bhukya, S. (2024). Multi-Objective Reinforcement Learning Based Algorithm for Dynamic Workflow Scheduling in Cloud Computing. *Indonesian Journal of Electrical Engineering and Informatics (IJEI)*, 12(3), 640-649.
78. PushpaRani, K., Roja, G., Anusha, R., Dastagiraiiah, C., Srilatha, B., & Manjusha, B. (2024, June). Geological Information Extraction from Satellite Imagery Using Deep Learning. In *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)* (pp. 1-7). IEEE.
79. Tambi, V. K., & Singh, N. A Comprehensive Empirical Study Determining Practitioners' Views on Docker Development Difficulties: Stack Overflow Analysis.
80. Tambi, V. K., & Singh, N. Evaluation of Web Services using Various Metrics for Mobile Environments and Multimedia Conferences based on SOAP and REST Principles.
81. Tambi, V. K., & Singh, N. Developments and Uses of Generative Artificial Intelligence and Present Experimental Data on the Impact on Productivity Applying Artificial Intelligence that is Generative.

82. Tambi, V. K., & Singh, N. A New Framework and Performance Assessment Method for Distributed Deep Neural Network-Based Middleware for Cyberattack Detection in the Smart IoT Ecosystem.
83. Tambi, Varun Kumar, and Nishan Singh. "Creating J2EE Application Development Using a Pattern-based Environment."
84. Tambi, Varun Kumar, and Nishan Singh. "New Applications of Machine Learning and Artificial Intelligence in Cybersecurity Vulnerability Management."
85. Tambi, V. K., & Singh, N. Assessment of Possible REST Web Service Description for Hypermedia-Focused Graph-Based Service Discovery.
86. Tambi, V. K., & Singh, N. Analysing Anomaly Process Detection using Classification Methods and Negative Selection Algorithms.
87. Tambi, V. K., & Singh, N. Analysing Methods for Classification and Feature Extraction in AI-based Threat Detection.
88. Sharma, S., & Dutta, N. (2024). Examining ChatGPT's and Other Models' Potential to Improve the Security Environment using Generative AI for Cybersecurity.
89. Arora, P., & Bhardwaj, S. Using Knowledge Discovery and Data Mining Techniques in Cloud Computing to Advance Security.
90. Arora, P., & Bhardwaj, S. (2021). Methods for Threat and Risk Assessment and Mitigation to Improve Security in the Automotive Sector. *Methods*, 8(2).
91. Arora, P., & Bhardwaj, S. A Thorough Examination of Privacy Issues using Self-Service Paradigms in the Cloud Computing Context.
92. Arora, P., & Bhardwaj, S. (2020). Research on Cybersecurity Issues and Solutions for Intelligent Transportation Systems.
93. Arora, P., & Bhardwaj, S. (2019). The Suitability of Different Cybersecurity Services to Stop Smart Home Attacks.
94. Arora, P., & Bhardwaj, S. (2019). Safe and Dependable Intrusion Detection Method Designs Created with Artificial Intelligence Techniques. *machine learning*, 8(7).
95. Arora, Pankit, and Sachin Bhardwaj. "A Very Effective and Safe Method for Preserving Privacy in Cloud Data Storage Settings."
96. Arora, P., & Bhardwaj, S. (2017). A Very Safe and Effective Way to Protect Privacy in Cloud Data Storage Configurations.
97. Arora, P., & Bhardwaj, S. The Applicability of Various Cybersecurity Services to Prevent Attacks on Smart Homes.
98. Arora, P., & Bhardwaj, S. Designs for Secure and Reliable Intrusion Detection Systems using Artificial Intelligence Techniques.
99. Abbas, S. A., Khan, A., Kalusalingam, A., Menon, B., Siang, T., & Mohammed, J. S. (2023). Pharmacological Screening Of Polyherbal Formulation For Hepatoprotective Effect Against Anti Tuberculosis Drugs Induced Hepatotoxicity On Albino Rats. *Journal of Survey in Fisheries Sciences*, 4313-4318.
100. Kumar, A., Ravishankar, K., Varma, A. K., Prashar, D., Mohammed, J. S., & Billah, A. M. Liposome Nanoparticles for Therapeutic and Diagnostic Applications.
101. Samya, B., Archana, M., Ramana, T. V., Raju, K. B., & Ramineni, K. (2024, February). Automated Student Assignment Evaluation Based on Information Retrieval and Statistical Techniques. In *Congress on Control, Robotics, and Mechatronics* (pp. 157-167). Singapore: Springer Nature Singapore.
102. Sravan, K., Rao, L. G., Ramineni, K., Rachapalli, A., & Mohmmad, S. (2024). Analyze the Quality of Wine Based on Machine Learning Approach Check for updates. *Data Science and Applications: Proceedings of ICDSA 2023, Volume 3*, 820, 351.
103. Chandhar, K., Ramineni, K., Ramakrishna, E., Ramana, T. V., Sandeep, A., & Kalyan, K. (2023, December). Enhancing Crop Yield Prediction in India: A Comparative Analysis of Machine Learning Models. In *2023 3rd International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON)* (pp. 1-4). IEEE.
104. Ramineni, K., Shankar, K., Shabana, Mahender, A., & Mohmmad, S. (2023, June). Detecting of Tree Cutting Sound in the Forest by Machine Learning Intelligence. In *International Conference on Power Engineering and Intelligent Systems (PEIS)* (pp. 303-314). Singapore: Springer Nature Singapore.
105. Ashok, J., RAMINENI, K., & Rajan, E. G. (2010). BEYOND INFORMATION RETRIEVAL: A SURVEY. *Journal of Theoretical & Applied Information Technology*, 15.
106. Selvan, M. Arul, and S. Miruna Joe Amali. "RAINFALL DETECTION USING DEEP LEARNING TECHNIQUE." (2024).
107. Selvan, M. Arul. "Fire Management System For Indutrial Safety Applications." (2023).
108. Selvan, M. A. (2023). A PBL REPORT FOR CONTAINMENT ZONE ALERTING APPLICATION.
109. Selvan, M. A. (2023). CONTAINMENT ZONE ALERTING APPLICATION A PROJECT BASED LEARNING REPORT.
110. Sekhar, P. R., & Sujatha, B. (2020, July). A literature review on feature selection using evolutionary algorithms. In *2020 7th International Conference on Smart Structures and Systems (ICSSS)* (pp. 1-8). IEEE.

111. Sekhar, P. R., & Sujatha, B. (2023). Feature extraction and independent subset generation using genetic algorithm for improved classification. *Int. J. Intell. Syst. Appl. Eng*, 11, 503-512.
112. Sekhar, P. R., & Goud, S. (2024). Collaborative Learning Techniques in Python Programming: A Case Study with CSE Students at Anurag University. *Journal of Engineering Education Transformations*, 38(Special Issue 1).
113. Pesaramelli, R. S., & Sujatha, B. (2024, March). Principle correlated feature extraction using differential evolution for improved classification. In *AIP Conference Proceedings* (Vol. 2919, No. 1). AIP Publishing.
114. Amarnadh, V., & Moparthy, N. R. (2024). Prediction and assessment of credit risk using an adaptive Binarized spiking marine predators' neural network in financial sector. *Multimedia Tools and Applications*, 83(16), 48761-48797.
115. Amarnadh, V., & Moparthy, N. R. (2024). Range control-based class imbalance and optimized granular elastic net regression feature selection for credit risk assessment. *Knowledge and Information Systems*, 1-30.
116. Amarnadh, V., & Akhila, M. (2019, May). RETRACTED: Big Data Analytics in E-Commerce User Interest Patterns. In *Journal of Physics: Conference Series* (Vol. 1228, No. 1, p. 012052). IOP Publishing.
117. Amarnadh, V., & Moparthy, N. (2023). Data Science in Banking Sector: Comprehensive Review of Advanced Learning Methods for Credit Risk Assessment. *International Journal of Computing and Digital Systems*, 14(1), 1-xx.
118. Rao, K. R., & Amarnadh, V. QoS Support for Cross-Layer Scheduling Algorithm in Wireless Networks.
119. Gowda, P., & Gowda, A. N. (2024). Best Practices in REST API Design for Enhanced Scalability and Security. *Journal of Artificial Intelligence, Machine Learning and Data Science*, 2(1), 827-830.
120. Gowda, P. G. A. N. (2024). Benefits and Risks of Generative AI in FinTech. *Journal of Scientific and Engineering Research*, 11(5), 267-275.