



Dr. Dipti P. Rana

Assistant Professor

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Sardar Vallabhbhai National Institute of Technology (SVNIT)
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[Web of Science](#)

[Google Scholar](#)

[Scopus](#)

[ORCID](#)

Research

Big Data Analytics, Imbalance Data Mining, Machine Learning, Information Extraction, Text Embedding, Recommendation System, Fake News Detection, Data Mining (DM), Social DM, Legal DM, Environmental DM, Computer Organization, Database Management System

Experience

Assistant Professor (since 2011)

Lecturer (2000-2011)

@ Department of Computer Sci. and Engg., SVNIT, Surat, India

Qualification

Ph. D., SVNIT

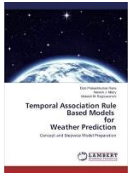
M. Tech. (R) CO, SVNIT

B. E. CO, SVRCET (SVNIT)

Book



1. Rana, Dipti P., and Rupa G. Mehta, eds. Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance. Hershey, PA: IGI Global, 2021. <https://www.igi-global.com/book/data-preprocessing-active-learning-cost/262922> (<http://doi:10.4018/978-1-7998-7371-6>)



2. Temporal Association Rule Based Models for Weather Prediction: Concept and Stepwise Model Preparation, Dipti Rana, N. Mistry, M. Raghuwanshi, LAP LAMBERT Academic Publishing, Germany, ISBN-10: 620207616X, [ISBN-13: 978-6202076166](https://www.lap-publishing.com/details.php?id=978-6202076166), Dec 2017.

International Journal Reviewer

1. International Journal of Soft Computing (SOCO), Springer, EISSN: 1433-7479, Print ISSN 1432-7643
2. International Journal of Data Technologies and Applications, Emerald Publishing Limited, ISSN: 2514-9288
3. International Journal of Innovative Teaching and Learning in Higher Education (IJITLHE), IGI Global, ISSN: 2644-1624
4. Advances and Applications in Bioinformatics and Chemistry, Dove Medical Press, ISSN: 1178-6949

SCI/Scopus Journal Publication

1. Dhanani, Jenish, Mehta, Rupa, and Rana, Dipti. 'Legal Document Recommendation System: A Cluster Based Pairwise Similarity Computation', Journal of Intelligent & Fuzzy Systems, pp. 1 – 13, 1 Jan 2021. DOI: 10.3233/JIFS-189871. **(SCIE)**
2. [Tidke, B.](#), [Mehta, R.](#), [Rana, D.](#), [Mittal, D.](#) and [Suthar, P.](#) (2020), "A Social Network based Approach to Identify and Rank Influential Nodes for Smart City", *Kybernetes*, (In Print). (DOI: <https://doi.org/10.1108/K-09-2019-0637>) **(SCI)**
3. [Dhanani, J.](#), [Mehta, R.](#) and [Rana, D. P.](#), "Legal document recommendation system: a dictionary based approach", *International Journal of Web Information Systems*, Vol. 17 No. 3, pp. 187-203, 2021. <https://doi.org/10.1108/IJWIS-02-2021-0015>. **(Scopus)**
4. Tidke, B., Mehta, R., Rana, D., & Jangir H. (2020). "Topic Sensitive User Clustering using Sentiment Score and Similarity Measures: Big Data and Social Network" International Journal of Web-Based Learning and Teaching Technologies (IJWLTT), Vol, 15 issue 2, 2020. IGI Global. **(Scopus)**
5. J. Dhanani, R. Mehta, D. Rana, "Sentiment Weighted Word Embedding for Big Text Data," in International Journal of Web-Based Learning and Teaching Technologies (IJWLTT), IGI Global, September, 2020, ISSN: 1548-1093. **(Scopus)**
6. Bharat Tidke, Rupa Mehta, Dipti Rana and Hullash Jangir, "Topic Sensitive User Clustering Using Sentiment Score and Similarity Measures: Big Data and Social Network," *International Journal of Web-Based Learning and Teaching Technologies (IJWLTT)* Vol. 15 (2), 2020. doi:10.4018/IJWLTT.2020040103 **(Scopus)**

7. Divyani Mittal, Pooja Suthar, Madhuri Patil, P.G.S. Pranaya, Dipti P. Rana, Bharat Tidke, Social Network Influencer Rank Recommender Using Diverse Features from Topical Graph, *Procedia Computer Science*, Volume 167, 2020, pp. 1861-1871, ISSN 1877-0509 (conference-paper, DOI: 10.1016/j.procs.2020.03.205, EID: 2-s2.0-85084503546). <https://doi.org/10.1016/j.procs.2020.03.205>(<http://www.sciencedirect.com/science/article/pii/S1877050920306700>) (**Scopus**)
8. Anjali S. More, Dipti P. Rana, An Experimental Assessment of Random Forest Classification Performance Improvisation with Sampling and Stage Wise Success Rate Calculation, *Procedia Computer Science*, Volume 167, 2020, Pages 1711-1721, ISSN 1877-0509, <https://doi.org/10.1016/j.procs.2020.03.381> (<http://www.sciencedirect.com/science/article/pii/S1877050920308474>). (**Scopus**)
9. M. Desai, R. G. Mehta and D. P. Rana, "An Empirical Analysis to Identify the Effect of Indexing on Influence Detection using Graph Databases", *International Journal of Innovative Technology and Exploring Engineering*, Vol. 8, No. 9S, ISSN: 2278-3075 (Online), July 2019, pp. 414-421. Available at DOI: 10.35940/ijitee.I1066.0789S19 (**Scopus**)
10. D. P. Rana, P. Chaudhari, N. J. Mistry, M. M. Raghuwanshi, "Novel Usage of Gujarati Tithi in Weather Analysis of Surat, India", *International Journal of Computer Science and Information Security*, Vol. 13, No. 6, pp. 34-37, June 2015. (**Scopus**)
11. P. Chaudhari, [D. P. Rana](#), [R. G. Mehta](#), [N. J. Mistry](#), [M. M. Raghuwanshi](#), "Discretization of Temporal Data: A Survey", *International Journal of Computer Science and Information Security (IJCSIS)*, ISSN:1947-5500, Vol. 11, No. 2, pp. 1-4, Feb 2014. (**Scopus**)

Book Chapters

1. More, Anjali S., and Dipti P. Rana. "Review of Imbalanced Data Classification and Approaches Relating to Real-Time Applications." In *Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance*, pp. 1-22. Hershey, PA: IGI Global, 2021. <http://doi:10.4018/978-1-7998-7371-6.ch001>
2. Agarwal, Isha Y. and Dipti P. Rana, Devanshi Bhatia, Jay Rathod, Kaneesha J. Gandhi, and Harshit Sodagar. "Detection of Bot Accounts on Social Media Considering Its Imbalanced Nature." In *Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance*, pp. 162-176. Hershey, PA: IGI Global, 2021. <http://doi:10.4018/978-1-7998-7371-6.ch009>

3. Agarwal, Isha Y. and Dipti P. Rana, Kshitij R. Suri, Punitkumar Jain, Saumya Awasthi, and Krittika Roy. "Behaviour Anomaly Detection With Similarity-Based Sampling for Imbalanced Data." In *Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance*, pp. 177-194. Hershey, PA: IGI Global, 2021. <http://doi:10.4018/978-1-7998-7371-6.ch010>
4. Agarwal, Isha Y., and Dipti P. Rana. "Fake News and Imbalanced Data Perspective." In *Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance*, pp. 195-210. Hershey, PA: IGI Global, 2021. <http://doi:10.4018/978-1-7998-7371-6.ch011>
5. Dhanani, Jenish and Rupa G. Mehta, Dipti P. Rana, Rahul Lad, Amogh Agrawal, Karan Chevli, and Jashwanth Gummula Reddy. "Indian Judgment Categorization for Practicing Similar Judgment Identification." In *Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance*, pp. 232-241. Hershey, PA: IGI Global, 2021. <http://doi:10.4018/978-1-7998-7371-6.ch013>
6. Desai, Mitali and Rupa G. Mehta, and Dipti P. Rana. "An Experimental Analysis to Learn Data Imbalance in Scholarly Data: A Case Study on ResearchGate." In *Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance*, pp. 242-254. Hershey, PA: IGI Global, 2021. <http://doi:10.4018/978-1-7998-7371-6.ch014>
7. Rana, Dipti P., and Navodita Saini. "Gender-Based Tweet Analysis (GTA)." In *Data Preprocessing, Active Learning, and Cost Perceptive Approaches for Resolving Data Imbalance*, pp. 255-267. Hershey, PA: IGI Global, 2021. <http://doi:10.4018/978-1-7998-7371-6.ch015>
8. Kenny Kumar M.J., Rana D. "High Average Utility Itemset Mining: A Survey" In: Chaki N., Pejas J., Devarakonda N., Rao Kovvur R.M. (eds) *Proceedings of International Conference on Computational Intelligence and Data Engineering. Lecture Notes on Data Engineering and Communications Technologies*, vol 56. PP. 347-374, Springer, Singapore, 2021. https://doi.org/10.1007/978-981-15-8767-2_30.
9. Mitali Desai, Rupa G. Mehta, and Dipti P. Rana, "RGNet: The Novel Framework to Model Linked ResearchGate Information into Network Using Hierarchical Data Rendering", *Advances in Machine Learning and Computational Intelligence, Algorithms for Intelligent Systems*, Springer, Singapore, pp. 37-45, July 2020. https://doi.org/10.1007/978-981-15-5243-4_4.

10. Dholakia R., Randeria R., Dholakia R., Ashar H., Rana D. (2020) [Cognitive Demand Forecasting with Novel Features Using Word2Vec and Session of the Day](#). In: Gunjan V., Zurada J., Raman B., Gangadharan G. (eds) Modern Approaches in Machine Learning and Cognitive Science: A Walkthrough. Studies in Computational Intelligence, vol 885. Springer, Cham (DOI: https://doi.org/10.1007/978-3-030-38445-6_5)
11. Dhanani J., Mehta R., Rana D., Tidke B. (2019) [Back-Propagated Neural Network on MapReduce Frameworks: A Survey](#). In: Tiwari S., Trivedi M., Mishra K., Misra A., Kumar K. (eds) Smart Innovations in Communication and Computational Sciences. Advances in Intelligent Systems and Computing, vol 851. Springer, Singapore (DOI: https://doi.org/10.1007/978-981-13-2414-7_35)
12. Parikh Y., Palusa A., Kasthuri S., Mehta R., Rana D. (2018) Efficient Word2Vec Vectors for Sentiment Analysis to Improve Commercial Movie Success. In: Bhattacharyya S., Gandhi T., Sharma K., Dutta P. (eds) Advanced Computational and Communication Paradigms. Lecture Notes in Electrical Engineering, vol 475. Springer, Singapore (DOI: https://doi.org/10.1007/978-981-10-8240-5_30)
13. Rana D., Mehta R., Somkunwar P., Mistry N., Raghuwanshi M. (2016) [Segregation of Rare Items Association](#). In: Nagar A., Mohapatra D., Chaki N. (eds) Proceedings of 3rd International Conference on Advanced Computing, Networking and Informatics. Smart Innovation, Systems and Technologies, vol 43. Springer, New Delhi (DOI: https://doi.org/10.1007/978-81-322-2538-6_18)

Conference Publication

1. Mathe John Kenny Kumar and Dipti Rana, "High Average Utility Itemset Mining: A Survey", 3rd International Conference on Computational Intelligence & Data Engineering (ICCIDE-2020), Vasavi College of Engineering, Hyderabad, India, June 12-13, 2020.
2. Dipti P Rana, Simran Bawkar, Mansi Jain, Swati Bothra and Shailesh Baldaniya, "Image Based Fake Tweet Retrieval (IBFTR)", IEEE International Conference for Emerging Technology (INCET-2019), pp. 1-9, 2020.
3. Divyani Mittal, Pooja Suthar, Madhuri Patil, P.G.S. Pranaya, Dipti P. Rana, Bharat Tidke, Social Network Influencer Rank Recommender Using Diverse Features from Topical Graph, International Conference on Computational Intelligence and Data Science (ICCIDS 2019), The NorthCap University, Gurugram, 6th-7th September, 2019.
4. Anjali More and Dipti Rana, "An Experimental Assessment of Random Forest Classification Performance Improvisation with Sampling and Stage Wise Success Rate

Calculation", International Conference on Computational Intelligence and Data Science (ICCIDS 2019), The NorthCap University, Gurugram, 6th-7th September, 2019.

5. Dholakia R., Randeria R., Dholakia R., Ashar H., Rana D., "Cognitive Demand Forecasting with Novel Features Using Word2Vec and Session of the Day" In: Gunjan V., Zurada J., Raman B., Gangadharan G. (eds) *Modern Approaches in Machine Learning and Cognitive Science: A Walkthrough. Studies in Computational Intelligence*, vol 885. Springer, Cham, 2020. (DOI: https://doi.org/10.1007/978-3-030-38445-6_5)
6. Anjali More and Dipti Rana, "Performance Enrichment through Parameter Tuning of Random Forest Classification for Imbalanced Data Applications", Applied Machine Learning & Management of Volatility, Uncertainty, Complexity and Ambiguity (V.U.C.A) (AML VUCA 2020), Bhubaneswar India
7. Mitali Desai, Rupa G. Mehta and Dipti P. Rana, "RGNet: The Novel Framework to Model Linked ResearchGate Information into Network using Hierarchical Data Rendering", International Conference on Modelling, Simulation & Intelligent Computing, Dubai, 29-31 JANUARY 2020.
8. Parikh Y., Palusa A., Kasthuri S., Mehta R., Rana D., "Efficient Word2Vec Vectors for Sentiment Analysis to Improve Commercial Movie Success.", In: Bhattacharyya S., Gandhi T., Sharma K., Dutta P. (eds) *Advanced Computational and Communication Paradigms. Lecture Notes in Electrical Engineering*, vol 475. Springer, Singapore, 2018. (DOI: https://doi.org/10.1007/978-981-10-8240-5_30)

Dataset Publication

1. Agarwal, I., Rana, D. (2020), "COVID19FN", Mendeley Data, v3 <http://dx.doi.org/10.17632/b96v5hmfv6.3>

STTP Organized

1. One week TEQIP and C-DAC sponsored STTP on "High Performance Computing (HPC-2019)" during 27th - 31st May 2019
2. One week TEQIP and C-DAC sponsored STTP on "High Performance Computing (HPC-2018)" during 4th - 8th June 2018
3. Self sponsored STTP on "Web Programming Technologies (WPT-2018)" during 1st - 5th January 2018
4. Self sponsored STTP on "Advanced 'C' Programming for Engineers (ACPE-2017)" during 11th-15th December 2017

5. Self sponsored STTP on "'C' Programming for Engineers (CPE-2017)" during 4th-9th December (Excl. 6th) 2017
6. TEQIP-II sponsored Short Term Training Program, "Recent Trends in Big Data Analytics (RTBDA-2017)" during 27th Feb – 3rd Mar 2017 at COED, SVNIT
7. Short Term Training Program, "Data Mining Technique and Applications" during 8th - 12th Feb 2010 at COED, SVNIT
8. One week workshop on "First Step Towards Rise of Education" under TEQIP Service to Community Programme" at SVNIT

Expert Lectures Delivered

1. "Association Rule Mining", School of Information Technology, Artificial Intelligence & Cyber Security, Rashtriya Raksha University, Gandhi Nagar, Gujarat, 24th December 2020 (Through CISCO WebEx).
2. "Pointers in C", G. H. Rasoni Academy of Engineering and Technology, Nagpur, 14 August 2020 (Through CISCO Webex)
3. "Social Computing" in National Conference on Sustainable Computing and Information Technology (SCIT-2017), Sarvajanik College of Engineering and Technology, Surat

Expert Lectures Delivered @ SVNIT

1. "Exploring Client Side Scripting"
2. "Unexplored Aspects of Client Side Scripting"
3. "Aspects of Server Side Scripting"
4. "Unexplored Aspects of Server Side Scripting"
5. "Web Application Attacks and their Prevention"

Ph. D. Students

1. Ms. Anjali Y. More
2. Mr. Jenish Dhanani (Guiding with Dr. R. G. Mehta)
3. Ms. Isha Agarwal
4. Ms. Mitali Desai (Guiding with Dr. R. G. Mehta)
5. Mr. John Kenny
6. Ms. Pranita Mahajan
7. Ms. Vaishnavee Rathod (Guiding with Dr. R. G. Mehta)
8. Ms. Nikita (Guiding with Dr. R. G. Mehta)

B. Tech. Student Publication

1. Tidke, B., Mehta, R., Rana, D., Mittal, D. and Suthar, P. (2020), "A social network based approach to identify and rank influential nodes for smart city", *Kybernetes*, (In Print). (DOI: <https://doi.org/10.1108/K-09-2019-0637>)
2. D. Mittal, P. Suthar, M. Patil, P. G. S. Pranaya, D. P. Rana, B. Tidke, Social Network Influencer Rank Recommender Using Diverse Features from Topical Graph, *Procedia Computer Science*, 2020 | conference-paper, DOI: 10.1016/j.procs.2020.03.205, EID: 2-s2.0-85084503546
3. Dholakia R., Randeria R., Dholakia R., Ashar H., Rana D. (2020) Cognitive Demand Forecasting with Novel Features Using Word2Vec and Session of the Day. In: Gunjan V., Zurada J., Raman B., Gangadharan G. (eds) *Modern Approaches in Machine Learning and Cognitive Science: A Walkthrough. Studies in Computational Intelligence*, vol 885. Springer, Cham (DOI: https://doi.org/10.1007/978-3-030-38445-6_5)
4. Dipti P Rana, Simran Bawkar, Mansi Jain, Swati Bothra, Shailesh Baldaniya, "Image Based Fake Tweet Retrieval (IBFTR)", *International Conference for Emerging Technology (INCET 2020)*, pp. 1-8, 2020.
5. Parikh Y., Palusa A., Kasthuri S., Mehta R., Rana D. (2018) Efficient Word2Vec Vectors for Sentiment Analysis to Improve Commercial Movie Success. In: Bhattacharyya S., Gandhi T., Sharma K., Dutta P. (eds) *Advanced Computational and Communication Paradigms. Lecture Notes in Electrical Engineering*, Vol. 475. Springer, Singapore (DOI: https://doi.org/10.1007/978-981-10-8240-5_30)
6. N S Kapadia, D P Rana, U Parikh , "Weather Forecasting using Satellite Image Processing and Artificial Neural Networks", *International Journal of Computer Science and Information Security, (IJCSIS)*, Vol. 14 (11), pp. 1069, 2016 .

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