

Dr. Kunal Chakma, PhD

CONTACT INFORMATION	Associate Professor Computer Science and Engineering Department National Institute of Technology , Agartala Room 227, Second Floor Jirania, Tripura(w), 799046, INDIA	<i>Email:</i> kchakma.cse@faculty.nita.ac.in, kchakma.cse@nita.ac.in <i>WWW:</i> https://kunalchakma.com/ https://nita.ac.in/
RESEARCH INTERESTS	Natural Language Processing, Data Science, Information Retrieval, RAG.	
ACADEMIC APPOINTMENTS	Associate Professor CSE Department, National Institute of Technology, Agartala. Assistant Professor Grade-I CSE Department, National Institute of Technology, Agartala. Assistant Professor Grade-II CSE Department, National Institute of Technology, Agartala. Lecturer CSE Department, National Institute of Technology, Agartala.	1 st September 2026 to date 16 th August 2022 to 31 st August 2026 1 st April 2006 to 15 th August 2026 15 th May 2004 to 31 st March 2006
ADMINISTRATIVE RESPONSIBILITIES	• NIRF Nodal Officer. • Vice Chairman (Alumni Affairs & Industry Relations) • Chairman (Computing & ICT)	
EDUCATION	National Institute of Technology, Agartala. PhD in Computer Science & Engineering M.Tech. in Computer Science & Engineering Regional Engineering College, Jalandhar (at present NIT, Jalandhar) B.Tech. in Computer Science & Engineering,	
AWARDS & DISTINCTIONS	Gold Medallist in M.Tech.	
RESEARCH PROFILE	• Google Scholar: https://scholar.google.com/citations?hl=en&authuser=1&user=RWC2IfIAAAAJ • Scopus: https://www.scopus.com/authid/detail.uri?authorId=55595528600 • Web of Science: https://www.webofscience.com/wos/author/record/F-1399-2018 • DBLP: https://dblp.org/pid/154/8680.html • ORCID: https://orcid.org/0000-0002-5648-0918	
SPONSORED PROJECTS	• AI-assisted Digital Curation and Global Promotion of North-East Indian Folklore Leveraging AI and NLP techniques for the digital curation, preservation, and global promotion of folklore and cultural heritage from North-East India. An ongoing project funded by ANRF, Govt. of India.	
INTERNATIONAL JOURNAL PUBLICATIONS	[1] M Varaprasad Rao, K Chakma, A Jamatia, D Rudrapal (2026) <i>Enhancing Readability of Telugu Text Summarization Using Multi-scale Attention and Bio-inspired Optimization</i>. ACM Transaction on Asian Low-Resource Language Information Processing (TALLIP). Association for Computing Machinery. DOI: 10.1145/3831598 https://doi.org/10.1145/3831598 [2] M Varaprasad Rao, K Chakma, A Jamatia, D Rudrapal (2026) <i>Adaptive Trans-Residual Long Short Term Memory Model for Automatic Text Summarization in Telugu</i>. Computational Intelligence. Wiley. DOI: https://doi.org/10.1111/coin.70233 https://onlinelibrary.wiley.com/doi/abs/10.1111/coin.70233	

- [3] A Sinha, **K Chakma** (2026) *Adaptive Query Performance Prediction for Retrieval-Augmented Generation: Bridging Retrieval Quality and Generation Relevance*. ACM Transactions on Information Systems (TOIS). Association for Computing Machinery. DOI: 10.1145/3827605 <https://doi.org/10.1145/3827605>
- [4] B Paul, D Rudrapal, **K Chakma**, A Jamatia (2025) *Cross-Modal Attention with CMAI-T: Improving Multimodal Translation for Hindi Using the SentiCap-HIN Dataset*. Proceedings of the National Academy of Sciences, India Section A: Physical Sciences. DOI: <https://doi.org/10.1007/s40010-026-01002-8>
- [5] **K Chakma**, S Datta, A Jamatia, D Rudrapal (2025) *Semantic Role Labelling: A Systematic Review of Approaches, Challenges, and Trends for English and Indian Languages*. Expert Systems. Wiley publications, 1-1. DOI: <https://doi.org/10.1111/exsy.13838>
- [6] **K Chakma**, D Rudrapal, A Jamatia (2024) *Identification and summarisation of events from Twitter using clustering algorithms and deep neural network*. Natural Language Processing Journal. Cambridge University Press, 1-29. DOI: [10.1017/nlp.2024.47](https://doi.org/10.1017/nlp.2024.47)
- [7] B Paul, D Rudrapal, **K Chakma**, A Jamatia (2024) *Multimodal Machine Translation Approaches for Indian Languages: A Comprehensive Survey*. JUCS - Journal of Universal Computer Science 30(5): 694-717. DOI: <https://doi.org/10.3897/jucs.109227>
- [8] V. Rao, **Kunal Chakma**, Anupam Jamatia and Dwijen Rudrapal, *An innovative Telugu text summarization framework using the pointer network and optimized attention layer*, Multimedia Tools and Applications, Springer, 2024, pages 1-26, DOI: <https://doi.org/10.1007/s11042-024-19187-8>
- [9] Somnath Benarjee, Monojit Choudhury, **Kunal Chakma**, Sudip Kumar Naskar, Amitava Das, Sivaji Bandyopadhyay and Paolo Rosso, **MSIR@FIRE: A Comprehensive Report from 2013 to 2016**, SN Computer Science, Springer, Vol. 23, No. 3, 2020, pages 751-763, DOI: <https://doi.org/10.1007/s42979-019-0058-0>
- [10] **Kunal Chakma**, Amitava Das and Swapan Debbarma, *Deep Semantic Role Labeling for Tweets using 5W1H: Who, What, When, Where, Why and How*, Computación y Sistemas, Vol. 23, No. 3, 2019, pages 751-763, DOI: 10.13053/CyS-23-3-3253, ISSN 2007-9737
- [11] **Kunal Chakma** and Amitava Das, *A 5W1H Based Annotation Scheme for Semantic Role Labeling of English Tweets*, Computación y Sistemas, Vol. 22, No. 3, 2018, pages 747-755, DOI: 10.13053/CyS-22-3-3016, ISSN 2007-9737
- [12] **Kunal Chakma**, Amitava Das, *CMIR: A Corpus for Evaluation of Code Mixed Information Retrieval of Hindi-English Tweets*, Comp. y Sist. 2016, vol.20, n.3, pages 425-434. ISSN 2007-9737. <https://doi.org/10.13053/cys-20-3-2459>
- [13] Chandrika Chatterjee and **Kunal Chakma**, *A Comparison between Sentiment Analysis of Student Feedback at Sentence Level and at Token Level*, International Journal of Computer Science and Network (IJCSN), Volume 4, Issue 3, June 2015, Pages 482 - 486, ISSN (Online): 2277-5420
- [14] Mrinal Kanti Debbarma, Swapan Debbarma, Nikhil Debbarma, **Kunal Chakma** and Anupam Jamatia. A Review and Analysis of Software Complexity Metrics in Structural Testing In: *Science Direct ,Procedia Engineering, (ISSN: 1877-7058, ELSEVIER)*,28-30 December 2011,SCOPUS, Ei Compendex and Thomson ISI.
- [15] Swapan Debbarma and **Kunal Chakma**, *An Approach to Advance Real-Time Os Services with Soft-Error,”* International Journal of Computer and Electrical Engineering IJCEE 2011 , International Association of Computer Science & Information Technology(IACSIT) Vol.3(4): 548-553 ISSN: 1793-8163 pp. 548-553, 2011.
- [16] Swapan Debbarma, Anupam Jamatia, Nikhil Debbarma and **Kunal Chakma**. *Possible Intrusions’ Ip Trace-Back In Cloud Computing Environment*. In: *International Journal of Power Control Signal and Computation (IJPCSC)* ISSN : 0976-268X Vol. 1 No. 4 May 2-4, 2011.Sydney Australia.Thomson ISI Proceedings.

INTERNATIONAL
CONFERENCE
PUBLICATIONS

- [17] S Bhowmik, A Jamatia, D Rudrapal, **K Chakma** (2025), *3rd International Conference on Intelligent Systems, Advanced Computing and Communication (ISACC)*, pp. 464-471. DOI:10.1109/ISACC65211.2025.10969258
- [18] T B Devi, A Jamatia, D Rudrapal, **K Chakma** (2025), *A Dataset Development for Fake News Detection in Low-Resource Romanized Manipuri*, 3rd International Conference on Intelligent Systems, Advanced Computing and Communication (ISACC), pp. 472-478. DOI:10.1109/ISACC65211.2025.10969315
- [19] **Kunal Chakma** and Subhajit Datta, *A Multi-Model Lexical Fusion Approach for English-Bengali Code-Mixed Information Retrieval*. FIRE 2025. URL: <https://ceur-ws.org/Vol-4173/>
- [20] Sima Datta and **Kunal Chakma**, *Mapping the Linguistic Landscape: Progress Towards a Bengali FrameNet*. International Conference on Machine Learning and Data Engineering 2025. URL: <https://doi.org/10.1016/j.procs.2025.04.636>
- [21] Aparajita Sinha and **Kunal Chakma**, *NITATREC at TREC RAG 2025: A Report on Exploring Sparse, Dense, and Hybrid Retrieval for Retrieval-Augmented Generation*. TREC 2025 RAG track. URL: <https://trec.nist.gov/pubs/trec34/>
- [22] Aparajita Sinha and **Kunal Chakma**, *Closing the Lexical-Semantic Divide: A Unified Approach for Retrieval-Augmented Generation*. International Conference on Computational Intelligence in Communications and Business Analytics. CICBA 2025: Communications in Computer and Information Science, vol 2861. Springer. DOI: https://doi.org/10.1007/978-3-032-17181-8_13
- [23] Aparajita Sinha and **Kunal Chakma**, *A Comparative Analysis of Sentiment Analysis and Emotion Detection Problems on Texts* International Conference on Frontiers of Intelligent Computing: Theory and Applications, FICTA 2022: Intelligent Data Engineering and Analytics pages 465-475.Springer. DOI:
- [24] Nirmalya Kar, Sharmistha Roy, Ashim Saha, Kunal Chakma, Anupam Jamatia. A Biometric Based Design Pattern for Implementation of a Security Conscious E-Voting System using Cryptographic Protocols In: *Second International Conference on Advances in Information Technology and Mobile Communication – AIM 2012*, 27-28 April 2012 ,India,Bangalore [Accepted].
- [25] Mrinal Kanti Debbarma, Swapan Debbarma, Nikhil Debbarma, Kunal Chakma and Anupam Jamatia. A Review and Analysis of Software Complexity Metrics in Structural Testing. In: *International Conference on Computer Engineering and Applications (ICCEA 2011)* 15 – 17, July 2011,Haikou, China.Ei Compendex, ISI Proceeding.
- [26] Agnivesh pandey, Dwijen Rudrapal, Smita Das, Kunal Chakma. Gait as a Biometric for Human Recognition by Histogram of Silhouette Image; International Conference on Sunrise Technologies 13th-15th January 2011, Dhule,Maharashtra,India

PROFESSIONAL
MEMBERSHIPS

- Association of Computing Machinaries (ACM).

INDUSTRY
COLLABORATION

- Organized a shared task on Mixed Script Information Retrieval (MSIR) 2016 in collaboration with Microsoft India in Forum for Information Retrieval (FIRE) conference.
<https://shorturl.at/bnupU>

CURRENTLY
TEACHING

- Data Mining
- Machine Learning
- Deep Learning
- Data Science Foundations Laboratory
- Data Science Implementation Laboratory
- Machine Learning Laboratory

SUBJECTS TAUGHT
IN THE PAST

- Automata
- Compiler Design
- Operating Systems
- Systems Programming
- Distributed Systems