

Niloy Ganguly

Department of Computer Science & Engineering, Indian Institute of Technology Kharagpur, India.
niloy@cse.iitkgp.ac.in • +91-3222-283460 • <https://niloy-ganguly.github.io/>
Research Group: Complex Network Research Group (CNeRG) • <https://cnerg-iitkgp.github.io/>
Date of Birth: 12th August, 1969.

RESEARCH INTEREST

Natural Language Processing, Network Science, Machine Learning, Social Computing

POSITIONS HELD

Indian Institute of Technology Kharagpur, India

- | | |
|--|---------------------|
| ▪ Professor (Higher Administrative Grade*) | Aug 2020 – Present |
| ▪ Professor | Apr 2014 – Aug 2020 |
| ▪ Associate Professor | Feb 2009 – Apr 2014 |
| ▪ Assistant Professor | Jun 2005 – Feb 2009 |

L3S Research Centre, Hannover, Germany

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|---|---------------------|
| ▪ Visiting Professor (W3 Professor Grade) | Jan 2021 – Dec 2022 |
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Technical University of Dresden, Germany

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|---|---------------------|
| ▪ Research Scientist (Post Doctoral Fellow) | Jul 2003 – May 2005 |
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ADMINISTRATIVE POSITIONS HELD

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| ▪ Chairperson, Center of Excellence in Artificial Intelligence | Sep 2023 – Sep 2024 |
| ▪ Head, Department of Artificial Intelligence | Sep 2024 – Dec 2024 |

Founded the Department. Instrumental in starting MTech in Artificial Intelligence, BTech in Artificial Intelligence.

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|-----------------------------|---------------------|
| ▪ Project Director, AI4ICPS | Oct 2023 – Dec 2024 |
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Funded and supervised Translational Projects, Startup initiatives. Successfully run online AI-related certificate courses.

EDUCATION

Indian Institute of Engineering Science and Technology, Shibpur, India

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|---|-----------------|
| ▪ Ph.D. in Computer Science and Engineering | 2000 - May 2004 |
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Jadavpur University, Kolkata, India

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|---|------|
| ▪ Masters in Computer Science and Engineering | 1995 |
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Indian Institute of Technology Kharagpur, India

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|---|------|
| ▪ B.Tech. in Computer Science and Engineering | 1992 |
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PRE-PHD EXPERIENCE

Indian Institute of Social Welfare and Business Management, Calcutta, India,

- | | |
|-------------|-------------------|
| ▪ Lecturer. | Feb, 1999 - 2005. |
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*In India, Higher Administrative Grade is given to maximum 40% of full professors. One becomes eligible only after serving 6-year as a full professor.

Regional Engineering College (REC), Durgapur, India,

- Lecturer. 1998 - 1999

Haldia Institute of Technology (HIT), Haldia, India ,

- Lecturer. 1997 - 1998

Regional Computer Center, Calcutta, India,

- System Analyst. 1995-1996

Techna Digital Pvt. Serv. Ltd. Calcutta, India.

- System Programmer. 1993

SELECTED HONORS AWARDS

Surojit and Sanchayita Chatterjee Chair Professor	2024
Faculty Excellence Award[†]	2023
Fellow of National Academy of Engineering (FNAE) - India	2018
Cisco Faculty Gift	2017
NetApp Faculty Fellowship	2016
NSF TCPP Early-Adopter Award	2013
Samsung GRO Award	2012
Yahoo Faculty Gift	2012
Best Paper Award, CODS-COMAD	2019
Best Student Paper Award, ASONAM	2016
Best Paper Award IEEE TrustCom	2012
Honourable Mention (2nd Best Paper), VLSID conference	2003

SELECTED PROFESSIONAL ACTIVITIES

General Chair, ICDCN Conference[‡]	2023
Sponsorship Chair, CODS-COMAD Conference[§]	2020
General Chair, CODS-COMAD Conference	2018
General Chair, COMSNETS Conference[¶]	2017
Technical Program Chair, COMSNETS Conference	2016
Technical Program Chair, NetSciCom - A workshop of Infocom	2016
Poster Chair, WWW Conference	2015
PhD Forum Chair, ACM DEBS Conference	2014

Steering Committee Member Indian Symposium on Machine Learning	2020 - 2024
Organizing Committee Member at Leibniz AI Lab, Hannover, Harnessing Big Data for Precision Medicine and Healthcare	2021
Organizing Committee Member at Leibniz AI Lab, Hannover, Summer School: AI for Bio-Medicine	2022

Area Chair, AAAI	2021, 2022, 2023, 2024
SPC and PC member of several top tier conferences including WWW, SDM, AAAI, CIKM, WSDM etc.	

PH.D. STUDENTS GUIDED

Graduated 22 Ph.D. Presently supervising 12 students.

Students obtained Intel, Google, Microsoft, SAP, TCS Ph.D. Fellowship, Prime Minister Fellowship. All these fellowships are high valued PhD fellowship (more scholarship than normal fellowship) sponsored by various companies as well as government

[†]Received by 3 professors out of more than 300 professors

[‡]COMSNETS is the top Distributed Computing Conference in India

[§]CODS-COMAD is the top Data Science Conference in India

[¶]COMSNETS is the top Networking Conference in India

of India to attract high-quality PhD students¹.

Graduated PhD Students

22. Gourab Kumar Patro (TCS Fellow) - Graduated - July 24
Thesis Title: Algorithmic Fairness in Two-Sided Settings
Post PhD positions: L3S, LUH, Hannover, Quantiphi
21. Paramita Koley - Graduated - Feb 24
Thesis Title: Robust Learning in Asynchronous Event Data and Multi-agent Team Competitions
Post PhD positions: National Doctoral Fellow, ISI.
20. Avirup Saha - Graduated - Feb 22
Thesis Title: Modelling Self-reinforcement and Inter-competition in Multivariate Temporal Point Processes and Graph-based Semi-supervised Learning
Post PhD positions: IBM, IRL
19. Bidisha Samanta (Google Fellow), Graduated - July 21
Thesis Title: Application-Driven Generative Models for Graph and Text
Post PhD positions: Google Research India
18. Madhumita Mallick (Intel Fellow), Graduated - Aug 20
Thesis Title: Techniques To Facilitate Seamless Identification of Activities of Daily Living in a Smarthome
Post PhD positions: Huawei India, Visa India.
17. Surjya Ghosh, Graduated - Feb 20
Thesis Title: Developing Smartphone Keyboard Interaction Based Emotion Detection System
Post PhD positions: Centrum Wiskunde Informatica, Amsterdam, The Netherlands, BITS, Goa
16. Abhijnan Chakraborty (Google Fellow), Graduated - Jan 19
Thesis Title: Designing news recommendation system: from mass media to social media
Post PhD positions: MPI-SWS, Saarbrücken, IIT Delhi, IIT Kharagpur
15. Abir De (Google Fellow), Graduated - July 18
Thesis Title: Modelling and learning influence in social networks
Post PhD positions: MPI-SWS, Kaiserlautern, IIT Bombay
14. Koustav Rudra (TCS Fellow), Graduated - April 18
Thesis Title: Extracting and Summarizing Information from Microblogs during disasters
Post PhD positions: North West University, Leibniz University of Hannover, IIT Dhanbad, IIT Kharagpur
13. Sandipan Sikdar, Graduated - Feb 18
Thesis Title: Temporal Networks: Structure, Function and Application
Post PhD positions: RWTH Aachen, Leibniz University of Hannover (Junior Professor)
12. Parantapa Bhattacharya (TCS Fellow), Graduated - July 17
Thesis Title: Characterizing Twitter Users for Building Social Systems
Post PhD positions: Virginia Tech, University of Virginia (Research Scientist)
11. Tanmoy Chakraborty (Google Fellow), Graduated - Sep 15
Thesis Title: Community Analysis in Large Networks: Methods and Applications
Post PhD positions: University of Maryland, College Park, IIIT Delhi
10. Sourav Dandapat - Graduated - May 15
Thesis Title: Some Techniques to Address Traffic Congestion and Capacity Constraints in Mobile Networks
Post PhD positions: KAIST, Korea, IIT Patna
9. Sudipta Saha (TCS Fellow), Graduated - Jan 15
Thesis Title: Dynamics of Information Dissemination: A Structural and Functional Study
Post PhD positions: National University of Singapore, IIT Bhubaneswar
8. Rishiraj Saha Roy (Microsoft Fellow), Graduated - Dec 14
Thesis Title: Unsupervised Approaches to Syntactic Analysis of Web Search Queries
Post PhD positions: Adobe Labs, Bangalore, MPI-INF, Germany, Fraunhofer IIS, Erlangen

¹This funding is extra to the sponsored projects secured.

7. Rajib Maity, Graduated - April 14
Thesis Title: Performance Analysis and Improvement of Information Dissemination Protocols in DTN
Post PhD positions: IIT CNR Italy, IDRBT, Hyderabad, SUTD Singapore, BITS Hyderabad
6. Saptarshi Ghosh, Graduated - June 13
Thesis Title: Online Social Networks: Evolution and Search,
Post PhD positions: BESU (IEST, Shibpur), Humboldt Fellow, MPI, SWS, IIT Kharagpur
5. Joydeep Chandra (National Doctoral Fellow), Graduated - Aug 12
Thesis Title: Topology and its Effects on the Performance of Peer-to-peer Networks.
Post PhD positions: ETH Zurich, Samsung, IIT Patna
4. Subrata Nandi, Graduated - Sep 11
Thesis Title: Information Management in Large Scale Networks
Post PhD positions: NIT Durgapur
3. Bivas Mitra (SAP Fellow), Graduated - Jan 11
Thesis Title: Analyzing the resilience and emergence of superpeer networks
Post PhD positions: CNRS, UC Louvain, Samsung, IIT Kharagpur
2. Animesh Mukherjee (Microsoft Fellow), Graduated - Dec 09
Thesis Title: Self-Organization of Speech Sound Inventories in the Framework of Complex Networks
Post PhD positions: ISI Foundation, Italy, IIT Kharagpur
1. Monalisa Mukherjee, Graduated - Nov 07
Thesis Title: Authentication using Cellular Automata

COMPLEX NETWORK RESEARCH GROUP

Founder and coordinator of a research group named **Complex Network Research Group (CNeRG)**, which comprises 7 faculty members and around 40 PhD students working in the broad area of artificial intelligence and social sensing. The members work on various projects related to social computing like hate speech, misinformation, disaster management as well as on bias and fairness. There are series of works on natural language processing on Indian languages, code-mix languages and domain-specific usage of language. Also a strong line of work is pursued in the area of sensors and smart phones where extensive data collection from sensors is undertaken to tackle problems in the diverse domains ranging from mental health, education and transportation. In recent times, the group is seriously pursuing the domain of usable security specially audit systems to automatically identify violation in (say) hospital systems. The group has also pursued several thread related to graphs and temporal point process and scalability of machine learnings. In short, the team has made a wide coverage of various topics, have developed several organic collaborations among the faculty members and consistently published in top venues. Also in this process, the group has created various datasets which are widely used by researchers. Thus the team is widely reputed in India attracting top students. The group has received several prestigious government funding as well as has been funded by almost all top private companies including Google, Microsoft, Facebook, Intel, Yahoo, Samsung, Goldman Sachs, Hewlett Packard, Accenture, Huawei, Netapp, Tata Consultancy etc. There has been a huge number of collaborations with researchers all over the world. For more information visit the group website <https://cnerg-iitkgp.github.io/>

(SELECTED) NATIONAL INTERNATIONAL SELECTION COMMITTEE MEMBER

- Indian Fellow in Engineering Selection Committee 2022
- ACM India Selection Committee for 'Outstanding Contributions in Computing by a Woman' 2021, 2022
- IEEE Selection Committee for 'AI's 10 to Watch (IEEE Award for 10 young scientist)' 2022
- DST ** Project Advisory Committee (PAC) on Computer, Electronics, Mathematics (International Division) 2022 - 2023
- DST Project Advisory Committee (PAC) on Computer, Communication, Electrical, Electronics [Invited member] 2022 - 2023

TEACHING SUMMARY


- Teaching in the Computer Science Department of IIT Kharagpur for the past 16 years.
- Recently taught **AI and Ethics** and **Design Lab** - a lab course covering different programming aspects of CSE for Masters Students. (Student count > 100).

**DST is the main funding body of India equivalent to NSF, DFG

- Regularly taught **Information Retrieval** and **Natural Language Processing** in the autumn and spring semester for the last several years. Last Student Count - 100+;
- Have taught **Natural Language Processing** and co-taught **Information Retrieval** in the Leibniz University of Hannover.
- Have taught **Complex Networks, Intelligent Systems** (course mainly discussing Fairness in AI), Smartphone Computing etc.
- Have taught several core computer science courses like **Computer Networks, Distributed Systems, Discrete Structures, Compiler Design** ^{††}
- Co-Designed several courses like **AI and Ethics, Social Computing, Smartphone Computing, Scalable Data Mining, Complex Networks** etc.
- Feedback consistently above 4/5.

PUBLICATION SUMMARY


- 82 Journals, 197 Conferences
- DBLP Profile: [Ganguly:Niloy.html](#)
- Some Physics-related publications in [Physical Review E](#), NPj series, Physica A, Euro Physics Letter.
- [csranking score](#): 28
- Google Scholar Profile is available [here](#). H-index: 50, Citation: 10432. (8th Feb, 2025)



Niloy Ganguly

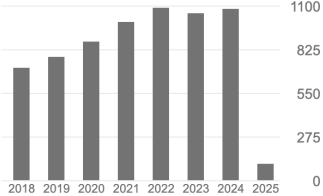
Department of CSE, [Indian Institute of Technology, Kharagpur](#)
Verified email at cse.iitkgp.ac.in - [Homepage](#)

[Artificial Intelligence](#)
[Social Computing](#)
[Natural Language Processing](#)
[Network Science](#)
[Machine Learning](#)



Cited by [VIEW ALL](#)

	All	Since 2020
Citations	10432	5210
h-index	50	36
i10-index	179	107



TITLE	CITED BY	YEAR
Stop clickbait: Detecting and preventing clickbaits in online news media A Chakraborty, B Paranjape, S Kakarla, N Ganguly 2016 IEEE/ACM (ASONAM) International Conference on Advances in Social ...	581	2016
Understanding and combating link farming in the twitter social network S Ghosh, B Viswanath, F Kooti, NK Sharma, G Korlam, F Benevenuto, ... Proceedings of the 21st international conference on World Wide Web, 61-70	527	2012
Design patterns from biology for distributed computing O Babaoglu, G Canright, A Deutsch, GAD Caro, F Ducatelle, ... ACM Transactions on Autonomous and Adaptive Systems (TAAS) 1 (1), 26-66	423	2006

SELECTED (10) RECENT PUBLICATIONS

1. Abhilash Nandy, Manav Nitin Kapadnis, Sohan Patnaik, Yash Parag Butala, Pawan Goyal, Niloy Ganguly: *****FastDoc*****: Domain-Specific Fast Continual Pre-training Technique using Document-Level Metadata and Taxonomy. Trans. Mach. Learn. Res. 2024 (2024)
2. Abhilash Nandy, Yash Agarwal, Ashish Patwa, Millon Madhur Das, Aman Bansal, Ankit Raj, Pawan Goyal, Niloy Ganguly: *****YesBut*****: A High-Quality Annotated Multimodal Dataset for evaluating Satire Comprehension capability of Vision-Language Models. EMNLP 2024: 16878-16895
3. Gunjan Balde, Soumyadeep Roy, Mainack Mondal, Niloy Ganguly: MEDVOC: Vocabulary Adaptation for Fine-tuning Pre-trained Language Models on Medical Text Summarization. IJCAI 2024: 6180-6188
4. Jingge Xiao, Leonie Basso, Wolfgang Nejdl, Niloy Ganguly, Sandipan Sikdar: IVP-VAE: Modeling EHR Time Series with Initial Value Problem Solvers. AAAI 2024: 16023-16031

^{††}Indian Institute of Technologys (IITs) are world-renowned for their excellent set of undergraduate and masters students. IIT Kharagpur is the biggest and the oldest IIT and the best students normally choose Computer Science as their major.

5. Paramita Koley, Harshavardhan Alimi, Shrey Singla, Sourangshu Bhattacharya, Niloy Ganguly, Abir De: Differentiable Change-point Detection With Temporal Point Processes. AISTATS 2023: 6940-6955
6. Kishalay Das, Bidisha Samanta, Pawan Goyal, Seung-Cheol Lee, Satadeep Bhattacharjee, Niloy Ganguly: CrysGNN: Distilling Pre-trained Knowledge to Enhance Property Prediction for Crystalline Materials. AAAI 2023: 7323-7331
7. Rajdeep Mukherjee, Abhinav Bohra, Akash Banerjee, Soumya Sharma, Manjunath Hegde, Afreen Shaikh, Shivani Shrivastava, Koustuv Dasgupta, Niloy Ganguly, Saptarshi Ghosh and Pawan Goyal ECTSum: A New Benchmark Dataset For Bullet Point Summarization of Long Earnings Call Transcripts EMNLP 2022 10893-10906
8. Gourab K. Patro, Prithwish Jana, Abhijnan Chakraborty, Krishna P. Gummadi, Niloy Ganguly: Scheduling Virtual Conferences Fairly: Achieving Equitable Participant and Speaker Satisfaction. WWW 2022: 2646-2656
9. Soham Poddar, Azlaan Mustafa Samad, Rajdeep Mukherjee, Niloy Ganguly, Saptarshi Ghosh. CAVES: A dataset to facilitate explainable classification and summarization of concerns towards COVID vaccines. ACM SIGIR, 3154-3164, Madrid, Spain, July 2022 3154-3164
10. Bidisha Samanta, Abir De, Gourhari Jana, Vicent Gomez Cerda, Pratim Chattaraj, Niloy Ganguly, and Manuel Gomez Rodriguez NEVAE: A Deep Generative Model for Molecular Graphs, Journal of Machine Learning Research (JMLR)21: 114:1-114:33 (2020)

SELECTED INVITED/ KEYNOTE TALKS

Invited Panelist Learning on Graphs, IIT Delhi	2024
Invited Speaker IIT Roorkee	Aug 2024
Invited Speaker CSE, IIT Bombay Department Talk	May 2024
Invited Speaker ASCAT 2024	Mar 2024
Invited Speaker APPCAIR-IEEE AI Symposium	Feb 2024
Invited Speaker Google Research Week, Bangalore	Feb 2024
Invited Speaker Florence Nightingale Data Science Talk Series, IIT Palakkad	Nov 2023
Keynote Speaker Intelligent Computing Systems and Applications (ICICSA-2023) Organized by National Institute of Technology Silchar	Sep 2023
Invited Speaker Responsible AI Summer School, Hannover	Aug 2023
Invited Speaker Department Day Organized by Data Science and Engineering Department, IISER Bhopal	Aug 2023
Invited Speaker IndoML, IIT Gandhinagar	Dec 2022
Invited Speaker Artificial Intelligence for Materials Science (AIMS), Organized by NIST	Jul 2022
Invited Speaker Kepler Computing, Berkeley, USA	Jun 2022
Invited Speaker AI for Science, Hannover Centre for Optical Technologies,	Apr 2022
Invited Speaker 2ND Workshop on Graphs and more Complex Structures for Learning and ReasoninG COLOCATED WITH AAAI 2022	Feb 2022
Keynote Speaker Amazon Research Day, Amazon, Bengaluru .	Nov 2021
Keynote Speaker 2nd International Conference on Data Science and Applications (ICDSA 2021)	Apr 2021
Invited Talk HSBC GAC Analytics Symposium 2020	Dec 2020
Invited Speaker UKIERI SPARC Webinar Series: Artificial Intelligence and Machine Learning	Jun 2020
Invited Speaker LinkedIn-MSR-IISc workshop on FATE in Machine Learning,	Jan 2020
Invited Speaker Learning with Temporal Point Processes NeurIPS 2019 Workshop,	Dec 2019
Invited Talk Adobe Labs, San Jose	May 2019
Invited Talk Flipkart Annual Event - Slash n	Apr 2019
Invited Talk Theoretical Basis of Machine Learning, ICTS, Bangalore	Dec 2018
Invited Talk Adobe Development Talk Series Bangalore	Jun 2018
Keynote Speaker, Big Data Analytics, IIIT Hyderabad	Dec 2017
Distinguished Speaker, Northeastern University, College of Computer and Information Science, Boston, Massachusetts Oct 2017	
Invited Talk, IKDD, Data Science In India Colocated with KDD 2017, Halifax, Nova Scotia, Canada	Aug 2017
Keynote Speaker, IBM I-CARE Conference, Bangalore	Oct 2016
Invited Speaker, ACM-MSR India Research Summit, Infosys Park, Pune	Jan 2016
Invited Speaker, TCS, TACTiCS Conference on Social Media Analytics, Yantra Park, Thane	Jan 2016
Invited Speaker, HP Labs, Palo Alto, California,	Apr 2016

MAJOR RESEARCH GRANTS

computation \$ 2000 is required per year. This adds up to \$ 9500. Insitute overhead is 20 % above this, which roughly make the value \$ 11,000. That is approximately Rs. 10Lakh (henceforth represented only as L). **So for one student for one year roughly Rs. 10L is required.** I have raised around **Rs. 2000L** in form of sponsored projects from the government and private sector in the **last 10 years**.

Running Projects

- Sponsor: Accenture
Towards sustainable AI models: Accessing LLMs efficiently
Worth: Rs. 20L, Duration 2023 - 2025.
- Sponsor: Merlyn Mind
A Novel Framework to Compress Multimodal Dialogue Contexts and Identify User Satisfaction Index
Worth: Rs. 20L, Duration 2023 - 2025.
- Sponsor: Indo-Korea Science and Technology Center:
Prediction of Properties of Materials
Worth: Rs. 80L, Duration 2019 - 2026.
- Sponsor:IIT KHARAGPUR
AI-Driven AgriSmart Solutions: Digital Soil Health Card
Worth: Rs. 2Cr, Duration 2024 - 2026.
- Sponsor: Scheme for Promotion of Academic and Research Collaboration (SPARC)
Irem: Informative and robust explanation generation of deep multi-modal models.
Collaborative Project between IIT Kharagpur and L3S, Hannover, Germany
Worth: Rs. 66L, Duration 2024 - 2026.
- Sponsor:Alumni Donation
Toward building responsible image and text processing toolS
Worth: Rs. 1Cr, Duration 2024 - 2026.

Completed Projects

Private Company-Sponsored Projects In many of the private projects, the money is allowed to be used even beyond the official closure of exchange with the company, hence the project stays active.

- Sponsor: Microsoft
Identifying the Differences between the Large Language Model and Human-Generated Texts to Facilitate Responsible AI
Worth: Rs. 20L, Duration 2023 - 2025.
- Sponsor: Goldman Sachs
Fintalk: A Collaborative Platform for Extracting Highlights and Summaries from Financial Documents VIA continuous curation, evaluation and feedback
Worth: Rs. 70L, Duration 2021 - 2023.
- Sponsor: Huawei Technologies India Private Limited,Business office:
Anomaly Detection using Logs
Worth: Rs. 47L, Duration 2019 - 2021.
Anamoly Detection in Big Data Cluster
Worth: Rs. 20L, Duration 2019 - 2021.
- Sponsor: Tata Consultancy Limited
Behavior Modeling in Multi-sensor Environments Integrating environment sensing, human sensing and social sensing for rich insights
Worth: Rs. 71L, Duration 2018 - 2020.
- Sponsor: Intel Technology India Pvt. Ltd.
Traffic Engineering for Enabling Energy-aware Design in Next Generation Cellular Networks
Worth: Rs. 95L, Duration 2018 - 2022.

Learning Representations from Network Data

Worth: Rs. 108L, Duration 2017 - 2022.

Deep Reinforcement Learning Based Design of Incentive Schemes for Fairness Promotion

Worth: Rs. 8L, Duration 2021 - 2022.

- Sponsor: Samsung Electronics Co.Ltd.
Advanced Natural Language Understanding
Worth: Rs. 35.4L, Duration 2020 - 2021

Self Evolving and Language Independent knowledge Graphs

Worth: Rs. 35.4L, Duration 2018 - 2019

Leveraging bipartite network to investigate the dynamical properties of socio-technical systems

Worth: Rs. 40L, Duration 2012 - 2021

- Sponsor: Hewlett Packard (India) Software Operations Private Limited
Property Preserving Data Gradation for Autonomous Vehicle Data
Worth: Rs. 36L, Duration 2018 - 2023

Efficiently Managing Storage Space in IOT (Internet of Things)

Worth: Rs. 10L, Duration 2016 - 2021

QoS Based Network Resource Management for Dynamic Workload Mobility in Hyperconverged Architecture

Worth: Rs. 14.4L, Duration 2016 - 2018

- Sponsor: Cisco University Research Program Fund
Understanding and Predicting Opinion Dynamics In Collective Environment Using Deep Network Representation
Worth: Rs. 44L, Duration 2017 - 2022

Predicting Root Cause for Failures in Large Scale Networked Systems

Worth: Rs. 1L, Duration: 2019.

- Sponsor: Accenture Corporation
Online Social Media for Understanding and Countering Disease Outbreak
Worth: Rs. 16L, Duration 2017 - 2022

Architecting Radically Human Processes and Applications

Worth: Rs. 19L, Duration 2020 - 2025

- Sponsor: Adobe Systems Inc
Computational Aspects and Role of Content for Persuasive Brand Positioning
Worth: Rs. 40L, Duration 2017 - 2021
- Sponsor: Flipkart Internet Private Ltd.
Customizing Compatibility and Introducing Diversity during Complete Outfit Generation
Worth: Rs. 10L, Duration 2021-2022

AI/ML Techniques for Online Shopping

Worth: Rs. 7L, Duration 2018 - 2021

Estimation of Product Response using Temporal Modeling of Past Events

Worth: Rs. 3.3L, Duration 2016 - 2021

Social computing for e-commerce

Worth: Rs. 10L, Duration 2015 - 2021

- Sponsor: NetApp India Private Limited
Model Development for Storage System Troubleshooting and Workload Characterization
Worth: Rs. 13L, Duration 2018 - 2023

Real Time Failure Prediction System

Worth: Rs. 12L, Duration 2016 - 2021

Real time fault prediction system

Worth: Rs. 3L, Duration 2014 - 2019

- Sponsor: [Data Transparency Lab](#)
Exposing Demographic Biases on Social Media
[Joint Project with Max Planck Institute, Software Systems, Saarbrücken.](#)
Worth: \$50K, Duration 2018 - 2019.
- Sponsor: IoTimize LLC
Classification & Progression Modelling of Cardiovascular & Pulmonary Diseases Using Advanced Data Analytics and Machine Learning Techniques
Worth: Rs. 9.3L, Duration 2016 - 2021
- Sponsor: Bharat Electronics Limited
Design and Development of Activity/Event Based Authentication Framework
Worth: Rs. 10L, Duration 2016 - 2017

Design and Development of Security Module to Prevent Information Leakage from Android Systems
Worth: Rs. 10L, Duration 2016 - 2018
- Sponsor: Yahoo India R & D
Research in social networks and user-generated content
Worth: Rs. 8.4L, Duration 2014 - 2021

Identifying topical experts on twitter
Worth: Rs. 2.5L, Duration 2013 - 2021
- Sponsor: Microsoft Research Lab. India Pvt. Ltd.
Understanding Different Pragmatic Functions Behind Code-Switching
Worth: Rs. 2.5L, Duration 2016 - 2021

Research grant in social computing
Worth: Rs. 2.5L, Duration 2014 - 2019

Indian Government-Sponsored Projects

- Sponsor: Scheme for Promotion of Academic and Research Collaboration (SPARC)
Generating Actionable and Reliable Summaries from Social Media in a Post-Disaster
[Collaborative Project between IIT Kharagpur and Penstate, USA](#)
Worth: Rs. 49L, Duration 2019 - 2022.

Where the Mind is Without Fear - Developing Enablers for Safe Communication in Online Social Networks
[Collaborative Project between IIT Kharagpur and Purdue University, USA](#)
Worth: Rs. 49L. Duration 2019 - 2022.

StressSense: Developing a Framework for Early Detection of Stress and Depression from Smartphone Engagements
[Collaborative Project between IIT Kharagpur and UMBC, USA](#)
Worth: Rs. 57L. Duration 2019 - 2022.
- Sponsor: [IMPRINT](#)
Conversation Agents FOR Urban Navigation
[Multi-institute project \(IIT Kharagpur, IIT Madras, IISC\)](#)
Worth: Rs. 28L, Duration 2019 - 2022.

CityProbe: A City-Scale Pervasive Sensing System for Monitoring Road Conditions, Air and Sound Pollution
[Multi-institute project \(IIT Kharagpur, IIT Bombay, NIT Durgapur, PEC Chandigarh\)](#)
Worth: Rs. 60L, Duration 2017 - 2022.

Development of a Remote Healthcare Delivery System: Early Diagnosis, Therapy, Follow-up and Preventive Care for Non-communicable Diseases (Cardio-pulmonary)
[Multi-institute project \(IIT Kharagpur, IIT Bombay, AIIMS New Delhi\)](#)
Worth: Rs. 148L, Duration 2017 - 2020.
- Sponsor: Department of Information Technology
Post disaster situation analysis and resource management using delay tolerant peer to peer wireless networks
[Multi-institute project \(IIT Kharagpur, IIM Kolkata, IIESR Shibpur, NIT Durgapur, Kalyani Government Engineering College, Heritage College, Kolkata\)](#)

Worth: Rs. 90L, Duration 2013 - 2018

Building Delay Tolerant Peer-To-Peer Network

Worth: Rs. 54L, Duration 2009 - 2013

- Sponsor: Department of Science and Technology(DST)

Analyzing the Dynamics of Critical Information Diffusion on Social Media: A Network Science Initiative (DyCiN)

Collaborative Project between IIT Kharagpur and Université catholique de Louvain

Worth: Rs. 11.4L, Duration 2016 - 2019

Data driven approaches for inferring opinion dynamics on social networks

Worth: Rs. 8.6L, Duration 2015 - 2017

Fast and communication efficient distributed supervised machine learning system using big data platforms

Worth: Rs. 43L, Duration 2015 - 2018

Understanding, leveraging and deploying online social networks

Collaborative Project between IIT Kharagpur and MPI, SWS

Worth: Rs. 60L, Duration 2012 - 2017

Building Collaborative Download Framework for Wired and Wireless Networks

Worth: Rs. 42L, Duration 2011 - 2015

Fuzzy Techniques for Opinion Mining in a Social Networking Environment

Worth: Rs. 10L, Duration 2011 - 2014

Designing Robust & Self Organized Publish SubscribE System Over Peer TO Peer (P2P) Networks

Worth: Rs. 20L, Duration 2007 - 2010

Designing Self-organized Adaptive Services for Open-Source Internet TelephonY over P2P Networks

Collaborative Project between IIT Kharagpur and TU Dresden

Worth: Rs. 4L, Duration 2006 - 2009

- Sponsor: CSIR, NEW DELHI

Enhancing cloud efficiency through P2P - based architectures

Worth: Rs. 16L, Duration 2012 - 2015

Identification of Motifs in integrated Cellular Networks

Worth: Rs. 12L, Duration 2011 - 2014

- Sponsor: Vodafone Essar (VEICET)

OPTIMAL SOLUTIONS AND APPLICATIONS FOR THE NEXT GENERATION WIRELESS INTERNET

Worth: Rs. 46L, Duration 2009 - 2013

- Sponsor: IIMA Idea Telecom Centres of Excellence (IITCOE)

Development of a novel authentication system using daily activity

Worth: Rs. 6L, Duration 2015 - 2016

- Sponsor: Indo-French Centre for the promotion of Avanced Research (CEFIPRA)

Evolving communities and information spreading

Worth: Rs. 26L, Duration 2014 - 2017

PROJECT EXPERIENCE IN GERMANY

- **International Principal Investigator** BMBF-funded Leibniz International Future Lab Artificial Intelligence

Worth: 5 Million Euro, Duration 2020 - 2023

- **Fellowship Mentor:** DAAD Hilde Programme Fellowship - One four-year, full-time student fellowship received on 'Fairness and Robustness in Ranking and Recommendation'

- **Co-investigator** (Submitted Proposal) CAIMed: Lower Saxony Center for AI and Causal Methods in Medicine, Sponsor: **Volkswagen**

Worth: 15 M Euro. Leading the sub-project AI for Drug Design

COVERAGE OF RESEARCH WORK IN POPULAR MEDIA

The Print India , Coverage of work on Crystal Graph Synthesis	May 2021
Publicatons: NPj Computational Materials	
Times of India , My interview in Times of India	Feb 2020
Economic Times ,	
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Publicatons: ASONAM'16, CSCW'18	Jan 2018
SIAM News , Coverage of work on opinion dynamics	
Publicatons: NIPS'16	Jul 2016
MIT Technology Review , Coverage of work on Activity Based Password	
Publicatons: SIGCHI'15	Apr 2015
The Telegraph India , Coverage of work on Indian Railways	
Publicatons: Physica A	Jan 2012
GIGAOM , Coverage of work on link farming in Social Network	
Publicatons: WWW 2012	Apr 2012

COMPLETE PUBLICATIONS

Conference Complete List

209. Ankan Mullick, Sombit Bose, Rounak Saha, Ayan Kumar Bhowmick, Pawan Goyal, Niloy Ganguly, Prasenjit Dey, Ravi Kokku: On The Persona-based Summarization of Domain-Specific Documents. ACL (Findings) 2024: 14291-14307
208. Soumyadeep Roy, Shamik Sural, Niloy Ganguly: Unlocking Efficiency: Adaptive Masking for Gene Transformer Models. ECAI 2024: 3195-3202
207. Gunjan Balde, Soumyadeep Roy, Mainack Mondal, Niloy Ganguly: Adaptive BPE Tokenization for Enhanced Vocabulary Adaptation in Finetuning Pretrained Language Models. EMNLP (Findings) 2024: 14724-14733
206. Arijit Nag, Animesh Mukherjee, Niloy Ganguly, Soumen Chakrabarti: Cost-Performance Optimization for Processing Low-Resource Language Tasks Using Commercial LLMs. EMNLP (Findings) 2024: 15681-15701
205. Abhilash Nandy, Yash Agarwal, Ashish Patwa, Millon Madhur Das, Aman Bansal, Ankit Raj, Pawan Goyal, Niloy Ganguly: ***YesBut***: A High-Quality Annotated Multimodal Dataset for evaluating Satire Comprehension capability of Vision-Language Models. EMNLP 2024: 16878-16895
204. Soham Poddar, Rajdeep Mukherjee, Subhendu Khatuya, Niloy Ganguly, Saptarshi Ghosh: How COVID-19 Has Impacted the Anti-vaccine Discourse: A Large-Scale Twitter Study Spanning Pre-COVID and Post-COVID Era. ICWSM 2024: 1276-1288
203. Gunjan Balde, Soumyadeep Roy, Mainack Mondal, Niloy Ganguly: MEDVOC: Vocabulary Adaptation for Fine-tuning Pre-trained Language Models on Medical Text Summarization. IJCAI 2024: 6180-6188
202. Abhilash Nandy, Yash Kulkarni, Pawan Goyal, Niloy Ganguly: Order-Based Pre-training Strategies for Procedural Text Understanding. NAACL (Short Papers) 2024: 821-828
201. Subhendu Khatuya, Rajdeep Mukherjee, Akash Ghosh, Manjunath Hegde, Koustuv Dasgupta, Niloy Ganguly, Saptarshi Ghosh, Pawan Goyal: Parameter-Efficient Instruction Tuning of Large Language Models For Extreme Financial Numeral Labelling. NAACL-HLT 2024: 7391-7403
200. Alfiya M. Shaikh, Hrithik Nambiar, Kshitish Ghate, Swarnali Banik, Sougata Sen, Surjya Ghosh, Vaskar Raychoudhury, Niloy Ganguly, Snehanishu Saha: Self-SLAM: A Self-supervised Learning Based Annotation Method to Reduce Labeling Overhead. ECML/PKDD (9) 2024: 123-140
199. Soumyadeep Roy, Aparup Khatua, Fatemeh Ghoochani, Uwe Hadler, Wolfgang Nejdl, Niloy Ganguly: Beyond Accuracy: Investigating Error Types in GPT-4 Responses to USMLE Questions. SIGIR 2024: 1073-1082
198. Subhendu Khatuya, Koushiki Sinha, Niloy Ganguly, Saptarshi Ghosh, Pawan Goyal: Instruction-Guided Bullet Point Summarization of Long Financial Earnings Call Transcripts. SIGIR 2024: 2477-2481
197. Jingge Xiao, Leonie Basso, Wolfgang Nejdl, Niloy Ganguly, Sandipan Sikdar: IVP-VAE: Modeling EHR Time Series with Initial Value Problem Solvers. AAAI 2024: 16023-16031
196. Akash Ghosh, Venkata Sahith Bathini, Niloy Ganguly, Pawan Goyal, Mayank Singh: How Robust Are the QA Models for Hybrid Scientific Tabular Data? A Study Using Customized Dataset. LREC/COLING 2024: 8258-8264

195. Hailay Kidu Teklehaymanot, Dren Fazlija, Niloy Ganguly, Gourab Kumar Patro, Wolfgang Nejdl: TIGQA: An Expert-Annotated Question-Answering Dataset in Tigrinya. LREC/COLING 2024: 16142-16161 2023
194. Kishalay Das, Bidisha Samanta, Pawan Goyal, Seung-Cheol Lee, Satadeep Bhattacharjee, Niloy Ganguly: CrysGNN: Distilling Pre-trained Knowledge to Enhance Property Prediction for Crystalline Materials. AAAI 2023: 7323-7331
193. Soumya Sharma, Subhendu Khatuya, Manjunath Hegde, Afreen Shaikh, Koustuv Dasgupta, Pawan Goyal, Niloy Ganguly: Financial Numeric Extreme Labelling: A dataset and benchmarking. ACL (Findings) 2023: 3550-3561
192. Arijit Nag, Bidisha Samanta, Animesh Mukherjee, Niloy Ganguly, Soumen Chakrabarti: Entropy-guided Vocabulary Augmentation of Multilingual Language Models for Low-resource Tasks. ACL (Findings) 2023: 8619-8629
191. Paramita Koley, Harshavardhan Alimi, Shrey Singla, Sourangshu Bhattacharya, Niloy Ganguly, Abir De: Differentiable Change-point Detection With Temporal Point Processes. AISTATS 2023: 6940-6955
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188. Abhilash Nandy, Manav Nitin Kapadnis, Pawan Goyal, Niloy Ganguly: CLMSM: A Multi-Task Learning Framework for Pre-training on Procedural Text. EMNLP (Findings) 2023: 8793-8806
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185. Rajdeep Mukherjee, Abhinav Bohra, Akash Banerjee, Soumya Sharma, Manjunath Hegde, Afreen Shaikh, Shivani Shrivastava, Koustuv Dasgupta, Niloy Ganguly, Saptarshi Ghosh and Pawan Goyal ECTSum: A New Benchmark Dataset For Bullet Point Summarization of Long Earnings Call Transcripts EMNLP 2022 10893-10906
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183. Ankan Mullick, Sukannya Purkayastha, Pawan Goyal, and Niloy Ganguly. A Framework to Generate High-quality Datapoints for Multiple Novel Intent Detection. NAACL findings, 2022: 755-763
182. Gourab K Patro, Prithwish Jana, Abhijnan Chakraborty, Krishna P. Gummadi and Niloy Ganguly. Scheduling Virtual Conferences Fairly: Achieving Equitable Participant and Speaker Satisfaction. WWW, 2022: 2646-2656.
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167. Gourab K. Patro, Abhijnan Chakraborty, Ashmi Banerjee, Niloy Ganguly: Towards Safety and Sustainability: Designing Local Recommendations for Post-pandemic World. RecSys 2020: 358-367
166. Avirup Saha, Shreyas S, Samik Datta, Niloy Ganguly, Disha Makhija, Priyank Patel *Understanding the Success of Graph-based Semi-Supervised Learning using Partially Labelled Stochastic Block Model* IJCAI-PRICAI, 2020: 1345-1351.
165. Tyss Santosh, Avirup Saha and Niloy Ganguly *MVL: Multi-View Learning for News Recommendation* SIGIR 2020: 1873-1876.
164. Rajdeep Mukherjee, Hari Chandana Peruri, Uppada Vishnu, Pawan Goyal, Sourangshu Bhattacharya and Niloy Ganguly *Read what you need: Controllable Aspect-based Opinion Summarization of Tourist Reviews* SIGIR 2020: 1825-1828.
163. Madhumita Mallick, Niloy Ganguly and Suparna Bhattacharya *GradeSense: Gradation Aware Storage for Robust Activity Recognition in a Multimodal Smart Home* MDM, 2020: 119-124.
162. Abhijit Mondal, Basabdatta Palit, Somesh Khandelvia, Nibir Pal, Jay Jayatheerthan, Krishna Paul, Niloy Ganguly and Sandip Chakraborty *EnDASH - A Mobility Adapted Energy Efficient ABR Video Streaming for Cellular Networks* IFIP Networking, 2020
161. Madhumita Mallick, Archan Misra, Niloy Ganguly, Youngki Lee *DETECTIF : Unified Detection Correction of IoT Faults in Smart Homes* WowMom 2020, Ireland.
160. Gourab Kumar Patro, Abhijnan Chakraborty, Niloy Ganguly and Krishna Gummadi *FairRec: Two-Sided Fairness for Personalized Recommendations in Two-Sided Platforms* The Web Conference (WWW'2020), Taiwan
159. Abir De, Paramita Koley, Niloy Ganguly, Manuel Gomez Rodriguez *Regression Under Human Assistance* AAI 2020, New York
158. Gourab Kumar Patro, Abhijnan Chakraborty, Niloy Ganguly, Krishna Gummadi *Incremental Fairness in Two-Sided Market Platforms: On Updating Recommendations Fairly* AAI 2020, New York
157. Abhirut Gupta, Sandipan Sikdar, Prateeti Mohapatra and Niloy Ganguly *Topic Influence Graph Based Analysis of Seminal Papers* CODS-COMAD, 2020, Hyderabad 2019
156. Soumyadeep Roy, Koustav Rudra, Nikhil Agrawal, Shamik Sural and Niloy Ganguly *Towards an Aspect-based Ranking Model for Clinical Trial Search* 8th International Conference on Computational Data and Social Networks (CSoNet 2019).
155. Soumya Sharma, Bishal Santra, Abhik Jana, Tyss Santosh, Niloy Ganguly and Pawan Goyal *Incorporating Domain Knowledge into Medical NLI using Knowledge Graphs* EMNLP-IJCNLP(1) 2019: 6091-6096
154. Ashish Sharma, Koustav Rudra and Niloy Ganguly *Going Beyond Content Richness: Verified Information Aware Summarization of Crisis-Related Microblogs*, ACM CIKM 2019
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150. Soumyadeep Roy, Niloy Ganguly, Shamik Sural, Niyati Chhaya and Anandhavelu Natarajan, *Understanding Brand consistency from Web content*, ACM WebScience'19
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148. Satadal Sengupta, Niloy Ganguly, Pradipta De, Sandip Chakraborty, *Exploiting Diversity in Android TLS Implementations for Mobile App Traffic Classification*, The Web Conference (WWW 2019),1657-1668, San Fransisco, USA, May 13-17, 2019.
147. Surjya Ghosh, Kaustubh Hiware, Niloy Ganguly, Bivas Mitra, Pradipta De *Does Emotion Influence the Use of Auto-suggest during Smartphone Typing?*, ACM IUI 2019, (144-149), March 17-20, Los Angeles
146. Avirup Saha, Niloy Ganguly, Sandip Chakraborty, Abir De *Learning Network Traffic Dynamics Using Temporal Point Process*, Infocom, Paris, 29 April - 2 May 2019, Paris, France
145. Soumajit Pramanik, Surya Teja Gora, Ravi Sundaram, Niloy Ganguly, Bivas Mitra *On the Migration of Researchers across Scientific Domains*, ICWSM, Munich, June 11-14, 2019
144. Abhijnan Chakraborty, Gourab K. Patro, Niloy Ganguly, Krishna P. Gummadi, Patrick Loiseau: *Equality of Voice: Towards Fair Representation in Crowdsourced Top-K Recommendations*. FAT 2019: 129-138, Atlanta, GA, USA, January 2019.
143. Bidisha Samanta, Abir De, Gourhari Jana, Pratim Kumar Chattaraj, Niloy Ganguly, Manuel Gomez Rodriguez *Designing Deep Generative Models for Molecular Graphs*, AAAI 2019, January 27 - Feb1, 2019, Honolulu, Hawaii,
142. Pradumn Pandey, Sourangshu Bhattacharya and Niloy Ganguly *Paper: Non-link Preserving Network Embedding using Subspace Learning for Network Reconstruction*, Cods-Comad 2019 (Research Track), 10-17, Jan 3-5, 2019, Kolkata
141. Shalmoli Ghosh, Koustav Rudra, Saptarshi Ghosh, Niloy Ganguly, Sanjay Podder, Naveen Balani and Neville Dubash *Identifying Multi-dimensional Information from Microblogs During Epidemics*, Cods-Comad 2019 (Industrial Track),224-230, Jan 3-5, 2019, Kolkata
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