

# Niloy Ganguly

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Research Group: Complex Network Research Group (CNeRG) • <https://cnerg-iitkgp.github.io/>

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## RESEARCH INTEREST

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

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## POSITIONS HELD

### Indian Institute of Technology Kharagpur, India

- |                                      |                     |
|--------------------------------------|---------------------|
| ▪ Professor (Higher Academic 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

- |   |                     |
|---|---------------------|
| ▪ Visiting Professor (W3 Professor Grade) | Jan 2021 – Dec 2022 |
|---|---------------------|

### Technical University of Dresden, Germany

- |   |                     |
|---|---------------------|
| ▪ Research Scientist (Post Doctoral Fellow) | Jul 2003 – May 2005 |
|---|---------------------|
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## EDUCATION

### Indian Institute of Engineering Science and Technology, Shibpur, India

- |   |                              |
|---|------------------------------|
| ▪ Ph.D. in Computer Science and Engineering | 2000 - May 2004 <sup>†</sup> |
|---|------------------------------|

### Jadavpur University, Kolkata, India

- |   |      |
|---|------|
| ▪ Masters in Computer Science and Engineering | 1995 |
|---|------|

### Indian Institute of Technology Kharagpur, India

- |   |      |
|---|------|
| ▪ 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. |
|-------------|-------------------|

### 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 |
|----------------------|------|
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\*In India, Higher Academic Grade is given to maximum 40% of full professors. One becomes eligible only after serving 6-year as a full professor.

<sup>†</sup>Ph.D. submitted in May, 2003

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## SELECTED HONORS AWARDS

<b>Fellow of National Academy of Engineering (FNAE) - India</b>	2018
<b>Cisco Faculty Gift</b>	2017
<b>NetApp Faculty Fellowship</b>	2016
<b>NSF TCPP Early-Adopter Award</b>	2013
<b>Samsung GRO Award</b>	2012
<b>Yahoo Faculty Gift</b>	2012
<b>Best Paper Award, CODS-COMAD</b>	2019
<b>Best Student Paper Award, ASONAM</b>	2016
<b>Best Paper Award IEEE TrustCom</b>	2012
<b>Honourable Mention (2nd Best Paper), VLSID conference</b>	2003

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## SELECTED PROFESSIONAL ACTIVITIES

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

<b>Organizing Committee Member</b> Indian Symposium on Machine Learning	2020, 2021, 2022
<b>Organizing Committee Member at Leibniz AI Lab, Hannover</b> , Harnessing Big Data for Precision Medicine and Healthcare	2021
<b>Organizing Committee Member at Leibniz AI Lab, Hannover</b> , Summer School: AI for Bio-Medicine	2022
<b>Area Chair, AAAI</b>	2021, 2022, 2023
<b>SPC and PC member</b> of several top tier conferences including WWW, SDM, AAAI, CIKM, WSDM etc.	

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## PH.D. STUDENTS GUIDED

Graduated 20 Ph.D. Presently supervising 8 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 of India to attract high-quality PhD students <sup>1</sup>.

### Graduated PhD Students

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

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<sup>‡</sup>COMSNETS is the top Distributed Computing Conference in India

<sup>§</sup>CODS-COMAD is the top Data Science Conference in India

<sup>¶</sup>COMSNETS is the top Networking Conference in India

<sup>1</sup>This funding is extra to the sponsored projects secured.

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 (Professor)
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 (Professor)
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 (Professor)
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 (Professor)
13. Sandipan Sikdar, Graduated - Feb 18  
**Thesis Title:** Temporal Networks: Structure, Function and Application  
**Post PhD positions:** RWTH Aachen, Leibniz University of Hannover (Researcher)
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 (Researcher)
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 (Professor)
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 (Professor)
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 (Professor)
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 (Senior Researcher)
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 (Professor)
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 (Professor)
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 (Professor)
4. Subrata Nandi, Graduated - Sep 11  
**Thesis Title:** Information Management in Large Scale Networks  
**Post PhD positions:** NIT Durgapur (Professor)
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 (Professor)
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 (Professor)
1. Monalisa Mukherjee, Graduated - Nov 07  
**Thesis Title:** Authentication using Cellular Automata

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## 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/>

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## (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
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## TEACHING SUMMARY

- Teaching in the Computer Science Department of IIT Kharagpur for the past 16 years.
  - Regularly taught **Information Retrieval** and **Natural Language Processing** in the autumn and spring semester for the last several years. Last Student Count - 100+; Last Feedback - 4.13/5.00
  - Have taught **Natural Language Processing** and co-taught **Information Retrieval** in the Leibniz University of Hannover.
  - item 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** <sup>††</sup>
  - Co-Designed several courses like **AI and Ethics, Social Computing, Smartphone Computing, Scalable Data Mining, Complex Networks** etc.
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## PUBLICATION SUMMARY

- 81 Journals, 195 Conferences
- DBLP Profile: [Ganguly:Niloy.html](#)
- Some Physics-related publications in [Physical Review E](#), NPj series, Physica A, Euro Physics Letter.
- [csranking score](#): 22
- Google Scholar Profile is available [here](#). H-index: 44, Citation: 8593. (13th July, 2023)

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<sup>\*\*</sup>DST is the main funding body of India equivalent to NSF, DFG

<sup>††</sup>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.



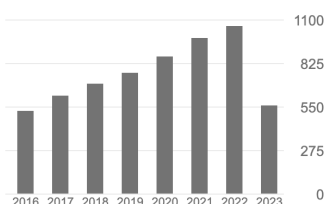
## Niloy Ganguly

[FOLLOW](#)Department of CSE, [Indian Institute of Technology](#), Kharagpur & L3S Research CenterVerified email at [cse.iitkgp.ac.in](mailto:cse.iitkgp.ac.in) - [Homepage](#)[Artificial Intelligence](#) [Social Computing](#) [Natural Language Processing](#) [Network Science](#)  
[Machine Learning](#)

Cited by

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	All	Since 2018
Citations	8593	4941
h-index	44	36
i10-index	150	97



TITLE	CITED BY	YEAR
<a href="#">Understanding and combating link farming in the twitter social network</a> S Ghosh, B Viswanath, F Kooli, NK Sharma, G Korlam, F Benevenuto, ... Proceedings of the 21st international conference on World Wide Web, 61-70	505	2012
<a href="#">Stop clickbait: Detecting and preventing clickbaits in online news media</a> A Chakraborty, B Paranjape, S Kakarla, N Ganguly 2016 IEEE/ACM (ASONAM) International Conference on Advances in Social ...	458	2016
<a href="#">Design patterns from biology for distributed computing</a> O Babaoglu, G Canright, A Deutsch, GAD Caro, F Ducatelle, ... ACM Transactions on Autonomous and Adaptive Systems (TAAS) 1 (1), 26-66	415	2006

### SELECTED (10) RECENT PUBLICATIONS

1. Paramita Koley, Harshavardhan Alimi, Shrey Singla, Sourangshu Bhattacharya, Niloy Ganguly, Abir De, Differentiable Change point Detection With Temporal Point Processes, AISTATS'2023
2. Kishalay Das, Bidisha Samanta, Pawan Goyal, Seung-Cheol Lee, Satadeep Bhattacharjee and Niloy Ganguly CrysGNN : Distilling pre-trained knowledge to enhance property prediction for crystalline materials. AAAI 2023 2022
3. 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
4. Gourab K Patro, Prithwish Jana, Abhijnan Chakraborty, Krishna P. Gummadi and Niloy Ganguly. Scheduling Virtual Conferences Fairly: Achieving Equitable Participant and Speaker Satisfaction. The Web Conference (WWW 2022)
5. Soham Poddar, Mainack Mondal, Janardan Misra, Niloy Ganguly, Saptarshi Ghosh, Winds of Change: Impact of COVID-19 on Vaccine-related Opinions of Twitter users ICWSM'2022
6. Rajdeep Mukherjee, Uppada Vishnu, Hari Chandana Peruri, Sourangshu Bhattacharya, Koustav Rudra, Pawan Goyal, Niloy Ganguly, MTLTS: A Multi-Task Framework To Obtain Trustworthy Summaries From Crisis-Related Microblogs WSDM, 2022
7. 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
8. Bidisha Samanta, Mohit Agrawal, Niloy Ganguly, *The Good, The Bad and The Ugly: Calibrating attributes while generating text*, ACL 2021
9. Gourab K Patro, Abhijnan Chakraborty, Niloy Ganguly and Krishna P. Gummadi, *FairRec: Two-Sided Fairness for Personalized Recommendations in Two-Sided Platforms*, The Web Conference (WWW 2020), Taiwan, April, 2020
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

For full list check [here](#)

<a href="#">Invited Speaker</a> Artificial Intelligence for Materials Science (AIMS), Organized by NIST	Jul 2022
<a href="#">Invited Speaker</a> 2ND Workshop on Graphs and more Complex Structures for Learning and ReasoninG COLOCATED WITH AAAI 2022	Feb 2022
<a href="#">Keynote Speaker</a> Amazon Research Day, Amazon, Bengaluru .	Nov 2021
<a href="#">Keynote Speaker</a> 2nd International Conference on Data Science and Applications (ICDSA 2021)	Apr 2021
<a href="#">Invited Talk</a> HSBC GAC Analytics Symposium 2020	Dec 2020
<a href="#">Invited Speaker</a> UKIERI SPARC Webinar Series: Artificial Intelligence and Machine Learning	Jun 2020
<a href="#">Invited Speaker</a> LinkedIn-MSR-IISc workshop on FATE in Machine Learning,	Jan 2020
<a href="#">Invited Speaker</a> Learning with Temporal Point Processes NeurIPS 2019 Workshop,	Dec 2019
<a href="#">Invited Talk</a> Adobe Labs, San Jose	May 2019
<a href="#">Invited Talk</a> Flipkart Annual Event - Slash n	Apr 2019
<a href="#">Invited Talk</a> Theoretical Basis of Machine Learning, ICTS, Bangalore	Dec 2018
<a href="#">Invited Talk</a> Adobe Development Talk Series Bangalore	Jun 2018
<a href="#">Keynote Speaker</a> , Big Data Analytics, IIIT Hyderabad	Dec 2017
<a href="#">Distinguished Speaker</a> , Northeastern University, College of Computer and Information Science, Boston, Massachusetts Oct 2017	
<a href="#">Invited Talk</a> , IKDD, Data Science In India Colocated with KDD 2017, Halifax, Nova Scotia, Canada	Aug 2017
<a href="#">Keynote Speaker</a> , IBM I-CARE Conference, Bangalore	Oct 2016
<a href="#">Invited Speaker</a> , 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
<a href="#">Invited Speaker</a> , Quantitative Life Science Seminar, International Centre for Theoretical Physics, Trieste, Italy	May 2015

## MAJOR RESEARCH GRANTS

In India, a research scholar receives around \$ 500 per month, that is \$ 6000 per year. For travel \$ 1500 and 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. 1900L (which is equivalent to \$ 2.5 Million** considering current exchange rates)) in form of sponsored projects from the government and private sector in the **last 10 years**.

## 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. Approximate funding from 2015 - Rs. 700L (approx. 70 student year).

- Sponsor: Microsoft  
Identifying the Differences between the Large Language Model and Human-Generated Texts to Facilitate Responsible AI  
2023-
- Sponsor: Accenture  
*Towards sustainable AI models: Accessing LLMs efficiently*  
2023-
- Sponsor: Merlyn Mind  
*A Novel Framework to Compress Multimodal Dialogue Contexts and Identify User Satisfaction Index*  
2023-
- 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:  
Indo-Korea Science and Technology Center:  
*Prediction of Properties of Materials*  
Worth: Rs. 34L, Duration 2019 - 2023.
- Sponsor: Huawei Technologies India Private Limited,Business office:

*Anomaly Detection using Logs*

Worth: Rs. 47L, Duration 2019 - 2021.

*Anomaly 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 Transperancy 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**

### **Ongoing 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.

### **Completed Projects**



- 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, IESR 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 Advanced 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

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## COVERAGE OF RESEARCH WORK IN POPULAR MEDIA

**The Print India**, [Coverage of work on Crystal Graph Synthesis](#)

Publicatons: NPj Computational Materials

May 2021

**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

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193. Soumyadeep Roy, Jonas Wallat, Sowmya S Sundaram, Wolfgang Nejdl, Niloy Ganguly GeneMask: Fast Pretraining of Gene Sequences to Enable Few-Shot Learning ECAI, 2023
192. Arijit Nag, Bidisha Samanta, Animesh Mukherjee, Niloy Ganguly and Soumen Chakrabarti Entropy-guided Vocabulary Augmentation of Multilingual Language Models for Low-resource Tasks Findings of ACL (short), 2023
191. Soumya Sharma, Subhendu Khatuya, Manjunath Hegde, Afreen Shaikh, Koustuv Dasgupta, Pawan Goyal and Niloy Ganguly, Financial Numeric Extreme Labelling: A dataset and benchmarking Findings of ACL (short), 2023
190. Kishalay Das, Pawan Goyal, Seung-Cheol Lee, Satadeep Bhattacharjee, Niloy Ganguly, CrysMMNet: Multimodal Representation for Crystal Property Prediction, UAI, 2023
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188. Paramita Koley, Harshavardhan Alimi, Shrey Singla, Sourangshu Bhattacharya, Niloy Ganguly, Abir De, Differentiable Change point Detection With Temporal Point Processes, AISTATS'2023
187. Avirup Mukherjee, Kousshik Murali, Shivam Kumar Jha, Niloy Ganguly, Rahul Chatterjee, Mainack Mondal MASCARA: Systematically Generating Memorable And Secure Passphrases ASIACCS'2023
186. Kishalay Das, Bidisha Samanta, Pawan Goyal, Seung-Cheol Lee, Satadeep Bhattacharjee and Niloy Ganguly CrysGNN: Distilling pre-trained knowledge to enhance property prediction for crystalline materials. AAAI 2023 2022
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

184. 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
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.
181. Debopriyo Banerjee, Lucky Dhakad, Harsh Maheshwari, Muthusamy Chelliah, Niloy Ganguly and Arnab Bhattacharya, Recommendation of Compatible Outfits Conditioned on Style ECIR, 2022: 35-50.
180. Soham Poddar, Mainack Mondal, Janardan Misra, Niloy Ganguly, Saptarshi Ghosh, Winds of Change: Impact of COVID-19 on Vaccine-related Opinions of Twitter users, ICWSM'2022: 782-793
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178. Rajdeep Mukherjee, Uppada Vishnu, Hari Chandana Peruri, Sourangshu Bhattacharya, Koustav Rudra, Pawan Goyal, Niloy Ganguly, MTLTS: A Multi-Task Framework To Obtain Trustworthy Summaries From Crisis-Related Microblogs WSDM, 2022:755-763.
177. Arijit Nag, Bidisha Samanta, Animesh Mukherjee, Niloy Ganguly and Soumen Chakrabarti, A Data Bootstrapping Recipe for Low-Resource Multilingual Relation Classification CONLL, 2021
176. Abhilash Nandy, Soumya Sharma, Shubham Maddhashiya, Kapil Sachdeva, Pawan Goyal and Niloy Ganguly, Question Answering over Electronic Devices: A New Benchmark Dataset and a Multi-Task Learning based QA Framework, EMNLP-Findings, 2021: 4600-4609.
175. Soumi Das, Harikrishna Patibandla, Suparna Bhattacharya, Kshounis Bera, Niloy Ganguly, Sourangshu Bhattacharya TMCOS: Thresholded Multi-Criteria Online Subset Selection for Data-Efficient Autonomous Driving ICCV, 2021: 6321-6330.
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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.
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163. Madhumita Mallick, Niloy Ganguly and Suparna Bhattacharya *GradeSense: Gradation Aware Storage for Robust Activity Recognition in a Multimodal Smarthome* MDM, 2020: 119-124.
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159. Abir De, Paramita Koley, Niloy Ganguly, Manuel Gomez Rodriguez *Regression Under Human Assistance* AAAI 2020, New York
158. Gourab Kumar Patro, Abhijnan Chakraborty, Niloy Ganguly, Krishna Gummadi *Incremental Fairness in Two-Sided Market Platforms: On Updating Recommendations Fairly* AAAI 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
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153. Surjya Ghosh, Shivam Goenka, Niloy Ganguly, Bivas Mitra and Pradipta De *Representation Learning for Emotion Recognition from Smartphone Keyboard Interactions* ACII, Cambridge, England in September 3-6, 2019.
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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
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