Priyanshu Priya

Department of Computer Science and Engineering
Indian Institute of Technology Patna, India

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EDUCATION

- **Indian Institute of Technology Patna** — *2020 - Present*
  PhD - Computer Science and Engineering

- **Central University of South Bihar** — *2016-2018*
  M.Sc. - Computer Science

- **Patna Women's College** — *2013-2016*
  B.Sc. in Computer Applications

EXPERIENCE

- **National Atmospheric Research Laboratory (NARL), Department of Space, Tirupati** — *January - May 2018*
  Intern - Machine Learning
  Advisor: Dr. Vikas Singh, Scientist, NARL, Tirupati

PUBLICATIONS AND TUTORIALS

– Kshitij Mishra*, Priyanshu Priya*, Manisha Burja, Asif Ekbal. e-THERAPIST: I suggest you to cultivate a mindset of positivity and nurture uplifting thoughts. In EMNLP 2023-Main.

– Mauajama Firdaus*, **Priyanshu Priya***, Asif EKbal. Mixing It Up: Inducing Empathy and Politeness using Multiple Behaviour-aware Generators for Conversational Systems. In Findings AACL-IJCNLP 2023.

– Kshitij Mishra*, **Priyanshu Priya*** and Asif Ekbal (2023). *PAL to Lend a Helping Hand*: Towards Building an Emotion Adaptive Polite and Empathetic Counseling Conversational Agent. In Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics, Canada Toronto.

– **Priyanshu Priya***, Kshitij Mishra*, Asif Ekbal (2023). *PARTNER*: A Persuasive Mental Health and Legal Counselling Dialogue System for Women and Children Crime Victims. In the 32nd International Joint Conference on Artificial Intelligence (AI for Social Good Track), Macao, S.A.R.

– Kshitij Mishra*, **Priyanshu Priya***, and Asif Ekbal (2023). *Help Me Heal*: A Reinforced Polite and Empathetic Mental Health and Legal Counseling Dialogue System for Crime Victims. In 37th AAAI Conference on Artificial Intelligence, February 7-14, USA.

– Gopendra Vikram Singh*, **Priyanshu Priya***, Mauajama Firdaus*, Asif Ekbal and Pushpak Bhattacharyya (2022). EmoInHindi: A Multi-label Emotion and Intensity Annotated Dataset in Hindi for Emotion Recognition in Dialogues. In LREC 2022.

– **Priyanshu Priya**, Mauajama Firdaus, Asif Ekbal (2023). A multi-task learning framework for politeness and emotion detection in dialogues for mental health counselling and legal aid. In Expert Systems With Applications, Elsevier.

Note: * - The authors are jointly first authors

– **Tutorial:** Priyanshu Priya, Mauajama Firdaus, Kshitij Mishra, and Asif Ekbal. Empathetic Conversational Artificial Intelligence Systems: Recent Advances and New Frontiers. In the 32nd International Joint Conference on Artificial Intelligence (AI for Social Good Track), Macao, S.A.R.

RESEARCH INTERESTS

Natural Language Processing, Conversational AI, Machine Learning, Deep Learning

TEACHING ASSISTANTSHIP

- **CS349** Artificial Intelligence
- **CS102** Programming and Data Structures
- **CS112** Programming and Data Structures Laboratory
- **CS271** Optimization Techniques
- **CS358** Computer Networks
- **CS359** Computer Networks Laboratory

Achievements and Awards

•**DST-INSPIRE Fellowship** *2021*
for pursuing PhD in Computer Science and Engineering at IIT Patna

•**UGC-NET Junior Research Fellowship** *December 2019*
University Grants Commission

•**UGC-NET Lectureship** *July 2018, December 2018, June 2019*
University Grants Commission

•**Merit Scholarship** *December 2016, June 2017*
First Rank Holder, Central University of South Bihar

•**Merit Scholarship** *2016*
Central University of South Bihar Entrance Test

•**Merit Scholarship** *2016*
First Rank Holder, Patna Women's College

Deeksha **Varshney**

Research Scholar (Fifth Year) · Computer Science & Engineering

A001, Girls Hostel, IIT Patna, Bihta, Bihar, 801103, India

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Education

Research Scholar (Indian Institute of Technology, Patna) *Bihar, India*

PhD in Computer Science and Engineering *July. 2018 - PRESENT*

- CGPA: 8.74/10

Banaras Hindu University, Varanasi *Uttar Pradesh, India*

M.Sc. in Computer Science *July. 2016 - June 2018*

- CGPA: 8.08/10

B.Sc. in Computer Science *July. 2013 - June 2016*

- CGPA: 8.82/10

St. Johns School, DLW, Varanasi *Uttar Pradesh, India*

Intermediate *July. 2011 - June 2013*

- Percentage: 85.3%

High School *July. 2010 - June 2011*

- Percentage: 86%

Research Experience

Indian Institute of Technology, Patna (Advisor: Dr. Asif Ekbal) *Bihar, India*

Knowledge-grounded dialogue generation using structured and unstructured knowledge *(Jan, 2021 – present)*

- Developing generative models for Mental Health and Legal Counseling Dialogue System for Crime Victims by grounding them on relevant knowledge.
- Developing a medical dialogue system which effectively utilizes the annotated entities in a dialogue using prompting techniques.
- Developing models that use contrastive learning to enhance sentence-level representations in dialogues using unstructured Wikipedia documents.
- Developed a novel open-domain conversation generation model which effectively fuses the large-scale structured commonsense knowledge in addition to the unstructured topic-specific knowledge associated with each utterance.
- Developed a knowledge-infused pre-trained language model for encoding medical utterances.
- Developed a multi-modal knowledge-grounded framework to generate responses that combine information from context, visuals, and external knowledge. Additionally, released a Knowledge Grounded Multi-Modal Dialog (KGMMD) dataset to help users in more efficient decision making.

Modelling Context Emotions for Emotion Controlled Dialog Generation *(June, 2020 – Jan 2021)*

- Developed an effective deep multi-task framework for emotion controlled dialog generation.
- Developed a Context and Knowledge Enriched Transformer Framework (CKETF) for emotion and knowledge aware emotion detection.

Knowledge and Emotion Grounded Dialogue Generation *(October, 2020 – Dec 2020)*

- Developed an effective deep multi-task framework for emotion as well as knowledge controlled dialog generation.

Banaras Hindu University (Advisor: Dr. Vivek Singh) *Varansi, India*

Research Paper Recommendation and Automatic Citation Recommendation System *(Jan, 2021 – present)*

- Developed a novel recomender system for finding the most similar research article and helping authors cite papers using automatic citation recommendation system

Publications

Conferences

- **Deeksha Varshney**, Aizan Zafar, Niranshu Behera, and Asif Ekbal. 2022. "CDialog: A Multi-turn Covid-19 Conversation Dataset for Entity-Aware Dialog Generation." In **Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing**, pages 11373–11385, Abu Dhabi, United Arab Emirates. Association for Computational Linguistics. **(h5-index: 154), (Core ranking: A)**
- **Deeksha Varshney**, Akshara Prabhakar, and Asif Ekbal. 2022. "Commonsense and Named Entity Aware Knowledge Grounded Dialogue Generation." **In Proceedings of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies**, pages 1322–1335, Seattle, United States. Association for Computational Linguistics. **(h5-index: 105), (Core ranking: A)**
- **Deeksha Varshney**, Asif Ekbal, and Pushpak Bhattacharyya. "Modelling context emotions using multi-task learning for emotion controlled dialog generation." **Proceedings of the 16th Conference of the European Chapter of the Association for Computational Linguistics**: Main Volume. 2021. **(h5-index; 62), (Core ranking: A)**
- **Deeksha Varshney**, Anushkha Singh and Asif Ekbal. "Knowledge Grounded Multimodal Dialog Generation in Task-oriented Settings." In **Proceedings of the 35th Pacific Asia Conference on Language, Information and Computation**, pp. 425-435. 2021.
- Ghosh, Soumitra, **Deeksha Varshney**, Asif Ekbal, and Pushpak Bhattacharyya. "Context and knowledge enriched transformer framework for emotion recognition in conversations." In 2021 International joint conference on neural networks (IJCNN), pp. 1-8. IEEE, 2021.
- Ahmad, Zishan, **Deeksha Varshney**, Asif Ekbal, and Pushpak Bhattacharyya. "Multi-linguality helps: Event-Argument Extraction for Disaster Domain in Cross-lingual and Multi-lingual setting." In Proceedings of the 16th International Conference on Natural Language Processing, pp. 135-142. 2019.
- Ahmad, Zishan, **Deeksha Varshney**, Asif Ekbal, and Pushpak Bhattacharyya. "Multi-lingual event identification in disaster domain." In Computational Linguistics and Intelligent Text Processing: 20th International Conference, CICLing 2019, La Rochelle, France, April 7–13, 2019, Revised Selected Papers, Part I, pp. 129-142. Cham: Springer Nature Switzerland, 2023.

Journals

- **Deeksha Varshney**, Aizan Zafar, Niranshu Behera, Asif Ekbal. "Knowledge Graph Assisted End-to-End Medical Dialogue Generation" Journal of Artificial Intelligence in Medicine. **(h5 index: 93), (Impact Factor: 7.011)**
- **Deeksha Varshney**, Aizan Zafar, Niranshu Kumar Behera, Asif Ekbal. "Knowledge grounded medical dialogue generation using augmented graphs." **Scientific Reports** Volume 13, 3310 (2023). **(h5 index: 206), (Impact Factor: 4.996)**
- **Deeksha Varshney**, Asif Ekbal, Mrigank Tiwari, and Ganesh Prasad Nagaraja. "EmoKbGAN: Emotion controlled response generation using Generative Adversarial Network for knowledge grounded conversation." **PloS one** 18, no. 2 (2023): e0280458. **(h5 index: 186), (Impact Factor: 3.752)**

Projects

PERCURO, WIPRO   *2021-present*
- Building Knowledge Grounded Question Answering System in the Pharma Domain using different graph algorithms.

SAMSUNG RESEARCH   *2019-2020*
- Built various deep neural dialog models for chit-chat type dialogue data.

A PLATFORM FOR CROSS-LINGUAL AND MULTILINGUAL EVENT MONITORING IN INDIAN LANGUAGES-IMPRINT
(GOVERNMENT PROJECT)   *2018-2019*
- Multi-Lingual Event Identification in Disaster Domain
- Multi-linguality helps: Event-Argument Extraction for Disaster Domain in Cross-lingual and Multi-lingual setting

CourseWork

PHD
- Introduction to Deep Learning
- Natural Language Processing
- Artificial Intelligence
- Foundations of Machine Learning
- Machine Learning for Intelligent Public Transport Systems

- C Programming and Data Structures
- Advanced Algorithms
- Operating Systems
- Database Management
- Digital Logic and Circuits
- Computer Organization and Architecture
- Theory of Computation
- Mathematical Methods
- Discrete Mathematics
- Calculus and Differential Equations
- Statistical Methods and Probability
- Statistical Inference
- Descriptive Statistics and Distribution Theory
- Sample Surveys and Design of Experiments

Skills

Programming	Python, PyTorch, Keras, C/C++, JAVA, LaTeX
Web	CSS, PHP, HTML5, Javascript, Flask
Database	SQL, MySQL, Apache, MongoDB
Machine Learning	Scikit-learn, Pytorch, Matplotlib, Hugging Face, Gensim
Languages	English, Hindi, Japanese

Extra curricular & Volunteer Work

2021	**Session Chair**, PACLIC35 2021	
2022	**Tutorials**, GIAN Workshop on Conversational AI	*IIT Patna*
2019	**Volunteer**, GIAN Workshop on Introduction to Unsupervised Data Mining: From Batch to Stream Mining Algorithms,	*IIT Patna*
2018-21	**Reviewer**, ACL, ACL-SRW, Expert System and Application, TALLIP, ICON, ICONIP, TCBB, PLOS One, WiML, IEEE affective computing	*IIT Patna*
2021, 2023	**Attendee**, Google Research Week, Amazon Research Week	*Bangalore*
2022-2023	**DAPC Student Representative**, Department of Computer Science and Engineering	*IIT Patna*
2022	**Google Student Travel Grant**, Received travel grant for attending NAACL (Seattle, USA) and EMNLP (AbuDhabi, UAE) conference	*IIT Patna*
2022	**Program Comittee**, ICONIP (International Conference on Neural Information Processing)	*IIT Patna*

Referees

Dr. Asif Ekbal, Associate Professor, Department of Computer Science & Engineering, IIT Patna, India.	*asif@iitp.ac.in*
Dr. Vivek Singh, Associate Professor, Department of Computer Science, Banaras Hindu University, India.	*viveksingh.in*

MAUAJAMA FIRDAUS
Curriculum Vitae

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○ Github in Linkedin

Experience

Department of Computing Science, University of Alberta, Canada

March,2022 – Present
PostDoctoral Research Associate.
Natural Language processing, Text Generation

Advisor : **Dr. Lili Mou**, *Assistant Professor, Department of Computing Science*, University of Alberta

Accenture Global Solutions Ltd., Bangalore, India

August,2017 – January,2018
Research Intern.
Natural Language Understanding

Advisor : **Dr. Harshawardhan Madhukar Wabgaonkar, and Dr. Shubhashis Sengupta**

Education

2016–2021 **PhD, Computer Science & Engineering**, *Indian Institute of Technology*, Patna.
Natural Language Processing, Dialogue Systems, Natural language Understanding, Natural Language Generation, Multimodality, Machine Learning and Deep Learning

2014–2016: **Master of Engineering, Computer Science and Engineering**, *National Institute of Technology*, Durgapur.

2010–2014: **Bachelor of Engineering, Computer Science and Engineering**, *Narula Institute of Technology*, Kolkata.

Publications & Tutorial

Patent

2020 Harshawardhan Madhukar Wabgaonkar, Shubhashis Sengupta, Tirupal Rao Ravilla, Sumitraj Ganapat Patil, Poulami Debnath, GM Sushravya, Roshni Ramesh Ramnani, Gurudatta Mishra, Moushumi Mahato, **Mauajama Firdaus**, et al. Spoken language understanding system and method using recurrent neural networks, June 9 2020. US Patent 10,679,613.

Tutorial

2023 **Priyanshu Priya, Mauajama Firdaus, Kshitij Mishra and Asif Ekbal**, Empathetic Conversational Artificial Intelligence Systems: Recent Advance and New Frontiers, In The 32nd International Joint Conference on Artificial Intelligence (IJCAI), 2023.

Journal Articles

2023 **Mauajama Firdaus**, Gopendra Vikram Singh, Asif Ekbal, and Pushpak Bhattacharyya. Affectgcn: a multimodal graph convolutional network for multi-emotion with intensity recognition and sentiment analysis in dialogues. *Multimedia Tools and Applications*, pages 1–22. Springer, 2023.

2023 **Mauajama Firdaus**, Avinash Madasu, and Asif Ekbal. A unified framework for slot based response generation in a multimodal dialogue system. *Multimedia Tools and Applications*. Springer, 2023.

2023 **Mauajama Firdaus**, Asif Ekbal, and Erik Cambria. Multitask learning for multilingual intent detection and slot filling in dialogue systems. *Information Fusion*, volume 91, pages 299–315. Elsevier, 2023.

2023   Priyanshu Priya, **Mauajama Firdaus**, and Asif Ekbal. A multi-task learning framework for politeness and emotion detection in dialogues for mental health counseling and legal aid. *Expert Systems with Applications*, page 120025. Elsevier, 2023.

2023   Kshitij Mishra, **Mauajama Firdaus**, and Asif Ekbal. Genpads: Reinforcing politeness in an end-to-end dialogue system. *Plos One*, volume 18, page e0278323. Public Library of Science San Francisco, CA USA, 2023.

2022   **Mauajama Firdaus**, Naveen Thangavelu, Asif Ekbal, and Pushpak Bhattacharyya. I enjoy writing and playing, do you: A personalized and emotion grounded dialogue agent using generative adversarial network. *IEEE Transactions on Affective Computing*. IEEE, 2022.

2022   **Mauajama Firdaus**, Arunav Shandilya, Asif Ekbal, and Pushpak Bhattacharyya. Being polite: Modeling politeness variation in a personalized dialog agent. *IEEE Transactions on Computational Social Systems*. IEEE, 2022.

2022   Gopendra Vikram Singh, **Mauajama Firdaus**, Shambhavi, Shruti Mishra, and Asif Ekbal. Knowing what to say: Towards knowledge grounded code-mixed response generation for open-domain conversations. *Knowledge-Based Systems*, volume 249, page 108900. Elsevier, 2022.

2022   Gopendra Vikram Singh, **Mauajama Firdaus**, Asif Ekbal, and Pushpak Bhattacharyya. Unity in diversity: Multilabel emoji identification in tweets. *IEEE Transactions on Computational Social Systems*. IEEE, 2022.

2022   Gopendra Vikram Singh, **Mauajama Firdaus**, Asif Ekbal, and Pushpak Bhattacharyya. Emointrans: A multimodal transformer for identifying emotions and intents in social conversations. *IEEE/ACM Transactions on Audio, Speech, and Language Processing*, volume 31, pages 290–300. IEEE, 2022.

2022   Kshitij Mishra, **Mauajama Firdaus**, and Asif Ekbal. Predicting politeness variations in goal-oriented conversations. *IEEE Transactions on Computational Social Systems*. IEEE, 2022.

2022   Kshitij Mishra, **Mauajama Firdaus**, and Asif Ekbal. Please be polite: Towards building a politeness adaptive dialogue system for goal-oriented conversations. *Neurocomputing*. Elsevier, 2022.

2021   **Mauajama Firdaus**, Nidhi Thakur, and Asif Ekbal. Aspect-aware response generation for multimodal dialogue system. *ACM Transactions on Intelligent Systems and Technology (TIST)*, volume 12, pages 1–33. ACM New York, NY, USA, 2021.

2020   **Mauajama Firdaus**, Arunav Pratap Shandeelya, and Asif Ekbal. More to diverse: Generating diversified responses in a task oriented multimodal dialog system. *PloS one*, volume 15, page e0241271. Public Library of Science San Francisco, CA USA, 2020.

2020   **Mauajama Firdaus**, Hitesh Golchha, Asif Ekbal, and Pushpak Bhattacharyya. A deep multi-task model for dialogue act classification, intent detection and slot filling. *Cognitive Computation*, pages 1–20. Springer, 2020.

2020   **Mauajama Firdaus**, Hardik Chauhan, Asif Ekbal, and Pushpak Bhattacharyya. Emosen: Generating sentiment and emotion controlled responses in a multimodal dialogue system. *IEEE Transactions on Affective Computing*. IEEE, 2020.

2019   **Mauajama Firdaus**, Ankit Kumar, Asif Ekbal, and Pushpak Bhattacharyya. A multi-task hierarchical approach for intent detection and slot filling. *Knowledge-Based Systems*, volume 183, page 104846. Elsevier, 2019.

In Conference Proceedings

2023   Zijun Wu, Zi Xuan Zhang, Atharva Naik, Zhijian Mei, **Mauajama Firdaus**, and Lili Mou. Weakly supervised explainable phrasal reasoning with neural fuzzy logic. In *Proceedings of the Eleventh International Conference on Learning Representations (ICLR)*, 2023.

2022 **Mauajama Firdaus**, Nidhi Thakur, and Asif Ekbal. Sentiment guided aspect conditioned dialogue generation in a multimodal system. In *European Conference on Information Retrieval*, pages 199–214. Springer, 2022.

2022 **Mauajama Firdaus**, Asif Ekbal, and Pushpak Bhattacharyya. Polise: Reinforcing politeness using user sentiment for customer care response generation. In *Proceedings of the 29th International Conference on Computational Linguistics (COLING)*, pages 6165–6175, 2022.

2022 Gopendra Vikram Singh, Priyanshu Priya, **Mauajama Firdaus**, Asif Ekbal, and Pushpak Bhattacharyya. Emoinhindi: A multi-label emotion and intensity annotated dataset in hindi for emotion recognition in dialogues. *LREC*, 2022.

2022 Gopendra Vikram Singh, Dushyant Singh Chauhan, **Mauajama Firdaus**, Asif Ekbal, and Pushpak Bhattacharyya. Are emoji, sentiment, and emotion friends? a multi-task learning for emoji, sentiment, and emotion analysis. In *Proceedings of the 36th Pacific Asia Conference on Language, Information and Computation*, pages 166–174, 2022.

2022 Azlaan Mustafa Samad, Kshitij Mishra, **Mauajama Firdaus**, and Asif Ekbal. Empathetic persuasion: Reinforcing empathy and persuasiveness in dialogue systems. In *Findings of the Association for Computational Linguistics: NAACL 2022*, pages 844–856, 2022.

2021 **Mauajama Firdaus**, Nidhi Thakur, and Asif Ekbal. Multi-aspect controlled response generation in a multimodal dialogue system using hierarchical transformer network. In *2021 International Joint Conference on Neural Networks (IJCNN)*, pages 1–8. IEEE, 2021.

2021 **Mauajama Firdaus**, Arunav Pratap Shandilya, Sthita Pragyan Pujari, and Asif Ekbal. Attribute centered multimodal response generation in a dialogue system. In *2021 International Joint Conference on Neural Networks (IJCNN)*, pages 1–8. IEEE, 2021.

2021 **Mauajama Firdaus**, Umang Jain, Asif Ekbal, and Pushpak Bhattacharyya. Seprg: Sentiment aware emotion controlled personalized response generation. In *Proceedings of the 14th International Conference on Natural Language Generation*, pages 353–363, 2021.

2021 **Mauajama Firdaus**, Hardik Chauhan, Asif Ekbal, and Pushpak Bhattacharyya. More the merrier: Towards multi-emotion and intensity controllable response generation. In *Proceedings of the AAAI Conference on Artificial Intelligence*, volume 35, pages 12821–12829, 2021.

2020 **Mauajama Firdaus**, Naveen Thangavelu, Asif Ekba, and Pushpak Bhattacharyya. Persona aware response generation with emotions. In *2020 International Joint Conference on Neural Networks (IJCNN)*, pages 1–8. IEEE, 2020.

2020 **Mauajama Firdaus**, Nidhi Thakur, and Asif Ekbal. Multidm-gcn: Aspect-guided response generation in multi-domain multi-modal dialogue system using graph convolution network. In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing: Findings*, pages 2318–2328, 2020.

2020 **Mauajama Firdaus**, Asif Ekbal, and Pushpak Bhattacharyya. Incorporating politeness across languages in customer care responses: Towards building a multi-lingual empathetic dialogue agent. In *Proceedings of The 12th Language Resources and Evaluation Conference*, pages 4172–4182, 2020.

2020 **Mauajama Firdaus**, Hardik Chauhan, Asif Ekbal, and Pushpak Bhattacharyya. Meisd: A multimodal multi-label emotion, intensity and sentiment dialogue dataset for emotion recognition and sentiment analysis in conversations. In *Proceedings of the 28th International Conference on Computational Linguistics*, pages 4441–4453, 2020.

2019 Tulika Saha, Saurabh Srivastava, **Mauajama Firdaus**, Sriparna Saha, Asif Ekbal, and Pushpak Bhattacharyya. Exploring machine learning and deep learning frameworks for task-oriented dialogue act classification. In *2019 International Joint Conference on Neural Networks (IJCNN)*, pages 1–8. IEEE, 2019.

2019   Hitesh Golchha, **Mauajama Firdaus**, Asif Ekbal, and Pushpak Bhattacharyya. Courteously yours: Inducing courteous behavior in customer care responses using reinforced pointer generator network. In *Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Volume 1 (Long and Short Papers)*, pages 851–860, 2019.

2019   Hardik Chauhan, **Mauajama Firdaus**, Asif Ekbal, and Pushpak Bhattacharyya. Ordinal and attribute aware response generation in a multimodal dialogue system. In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics*, pages 5437–5447, 2019.

2018   **Mauajama Firdaus**, Shobhit Bhatnagar, Asif Ekbal, and Pushpak Bhattacharyya. Intent detection for spoken language understanding using a deep ensemble model. In *Pacific Rim international conference on artificial intelligence*, pages 629–642. Springer, 2018.

2018   **Mauajama Firdaus**, Shobhit Bhatnagar, Asif Ekbal, and Pushpak Bhattacharyya. A deep learning based multi-task ensemble model for intent detection and slot filling in spoken language understanding. In *International Conference on Neural Information Processing*, pages 647–658. Springer, 2018.

Accepted Publications

2023   **Mauajama Firdaus, Gopendra Vikram Singh, Asif Ekbal, and Pushpak Bhattacharyya**, Multi-step Prompting for Few-shot Emotion-Grounded Conversations, In Proceedings of The 32nd ACM International Conference on Information and Knowledge Management (CIKM), 2023.

2023   **Mauajama Firdaus, Priyanshu Priya, Asif Ekbal**, Mixing It Up: Inducing Empathy and Politeness using Multiple Behaviour-aware Generators for Conversational Systems, Findings of IJCNLP-AACL 2023.

2023   **Guoqing Luo, Yu Tong Han, Lili Mou, Mauajama Firdaus**, Prompt-Based Editing for Text Style Transfer, Findings of EMNLP 2023.

Research Experience

Indian Institute of Technology, Patna

December,2020 – 2021   ***Modeling Politeness Variation in a Personalized Dialogue Agent***.
Developing a novel Polite Personalized Dialogue Generation (PoPe-DG) framework that employs a reinforced deliberation network for generating polite personalized dialogue responses in accordance with the user profile and consistent with the conversational history.

Advisor :   **Dr. Asif Ekbal**, *Associate Professor, Computer Science & Engineering*, IIT Patna & **Prof. Pushpak Bhattacharyya**, *Professor, Computer Science & Engineering*, IIT Bombay

July,2019 – October,2020   ***Aspect-aware Response Generation for Multimodal Dialogue System***.
In our current work, we focus on the task of aspect controlled response generation in a multimodal task-oriented dialog system. As there was no readily available data for building such multimodal systems, we create a Multi-Domain Multi-Modal Dialog (MDMMD++) dataset. The dataset comprises of the conversations having both text and images belonging to the four different domains, such as hotels, restaurants, electronics and furniture.

Advisor :   **Dr. Asif Ekbal**, *Associate Professor, Department of Computer Science & Engineering*, IIT Patna

February,2019 – September,2020   ***Emotion and Sentiment controlled Dialogue Systems***.
Proposed an approach for sentiment and emotion controlled dialogue generation. Creation of large-scale emotion and sentiment controlled dialogue dataset. In addition, we introduce the task of multi-emotion controllable response generation with the ability to express different emotions with varying levels of intensity in an open-domain dialogue system.

Advisor :   **Dr. Asif Ekbal**, *Associate Professor, Computer Science & Engineering*, IIT Patna & **Prof. Pushpak Bhattacharyya**, *Professor, Computer Science & Engineering*, IIT Bombay

June,2018 – December,ber,2018	***Inducing courteous phrases in Customer care Responses***. In this work, we propose an effective deep learning framework for inducing courteous behavior in customer care responses. Our technique is based on a reinforced pointer-generator model for the sequence to sequence task. The model is also conditioned on a hierarchically encoded and emotionally aware conversational context. We use real interactions on Twitter between customer care professionals and aggrieved customers to create a large conversational dataset.
Advisor :	**Dr. Asif Ekbal**, *Associate Professor, Computer Science & Engineering*, IIT Patna & **Prof. Pushpak Bhattacharyya**, *Professor, Computer Science & Engineering*, IIT Bombay
January,2017 – May,2018	***Multi-task framework for Natural Language Understanding***. Proposed an end-to-end hierarchical multi-task framework that can jointly perform both intent detection (ID) and slot filling (SF) tasks for the datasets of varying domains. Besides, we also propose a multi-task network that in addition to ID and SF also performs Dialogue Act Classification (DAC).
Advisor :	**Dr. Asif Ekbal**, *Associate Professor, Computer Science & Engineering*, IIT Patna & **Prof. Pushpak Bhattacharyya**, *Professor, Computer Science & Engineering*, IIT Bombay

National Institute of Technology, Durgapur

July,2015 – May,2016	***Constraint specification in Multi Agent System***. This work proposes formal analysis method for defining and specifying properties, resources, knowledge and related constraints of an agent in a Multi Agent System (MAS).
Advisor :	**Dr. Rajiv Kumar Chatterjee**, *Assistant Professor, Department of Computer Science & Engineering*, NIT Durgapur

Fellowships & Awards

2019	Receipt of ***Microsoft Travel Grant*** to attend the ***17th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT), 2019*** in Minneapolis, United States.
2019	Receipt of ***Microsoft Travel Grant*** to attend the ***57th Annual Meeting of the Association for Computational Linguistics (ACL), 2019*** in Florence, Italy.
2019	Receipt of the ***ACM India-IARCS travel grant*** to attend ***57th Annual Meeting of the Association for Computational Linguistics(ACL), 2020*** in Florence, Italy.

Computer skills

Programming Languages	Python, PyTorch, Keras, Tensorflow, C, C++, Advanced JAVA
Web Technologies	HTML 5, PHP, JSP, Javascript
Database	SQL, MySQL, Apache, Neo4j

Teaching Assistantship

Fall, 2020 :	**CS571: Artificial Intelligence**, IIT Patna.
Spring, 2020 :	**CS563: Natural Language Processing**, IIT Patna.
Fall, 2019 :	**CS571: Artificial Intelligence**, IIT Patna.
Spring, 2019 :	**CS564: Foundations of Machine Learning**, IIT Patna.
Fall, 2018 :	**CS342: Operating System Lab**, IIT Patna.
Spring, 2018 :	**CS101: Introduction to Computing**, IIT Patna.
Spring, 2017 :	**CS101: Introduction to Computing**, IIT Patna.

Referees

Dr. Asif Ekbal
Associate Professor, Department of
Computer Science & Engineering
Indian Institute of Technology Patna
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Prof. Pushpak Bhattacharyya
Professor, Department of
Computer Science & Engineering
Indian Institute of Technology Bombay
✉ pushpakbh@gmail.com

Dr. Shubhashis Sengupta
Managing Director and Head of Research
Accenture Labs, India
✉ shubhashis.sengupta@accenture.com

Dr. Lili Mou
Assistant Professor, Department of
Computing Science
University of Alberta, Canada
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Curriculum Vitae of Dr. Asif Ekbal

Office Address:
Department of Computer Science and Engineering
Indian Institute of Technology (IIT) Patna
Patna 801106, India
Webpage**:** http://www.iitp.ac.in/~asif/
Google Scholar: hsifttps://scholar.google.co.in/citations?user=IAL_F04AAAAJ&hl=en
DBLP: https://dblp.uni-trier.de/pers/hd/e/Ekbal:A
Semantic Scholar: https://www.semanticscholar.org/author/Asif-Ekbal/1734904

Nationality: Indian

Current Status:
Associate Professor, Department of Computer Science and Engineering, IIT Patna, India-800013

Research Areas
Artificial Intelligence, Natural Language Processing**,** Information Extraction, Machine Translation, Sentiment Analysis, Text Mining, Machine Learning Applications, and Dialogue Systems

Asif Ekbal is currently an Associate Professor in the Department of Computer Science and Engineering, IIT Patna. Prior to joining as an Assistant Professor in the same department in January 2011, he spent approximately 2 years as a Postdoctoral Research Fellow in Heidelberg University, Germany and University of Trento, Italy. He has been pursuing research in Natural Language Processing (NLP), Information Extraction, Text Mining and Machine Learning (ML) for the last 13 years, and has made significant contributions in these areas. He has authored around 230 papers in top-tier conferences like AAAI, IJCAI, ACL, EMNLP, COLING, NAACL, and journals like PLOS One, ACM Transactions, IEEE Transaction on Affective Computing etc. Asif has been involved in several sponsored research projects, funded by the different private agencies, such as Elsevier, Accenture, ezDI, LG, Skymap, Samsung, Flipkart; and Govt. agencies such as MeiTY, Govt. of India, MHRD, Govt. of India, and SERB, Govt. of India etc.

He has recently served as PC Chair, ICONIP-2022; has served as an Area Chair of Language Resources, EACL 2021; NAACL-19's area chair on QA; as the Senior PC member of IJACI-2019, 2020; AAAI 2020, 2021. He regularly serves in the PC and/review committee of conferences like ACL, EMNLP, CoNLL, IJCNLP, COLING, NAACL, AAAI, IJCAI etc. He is serving as an Associate Editor of ACM Transaction on Asian and Low-resource Language Information Processing (ACM TALLIP), ACM; Editorial Board member of Computer Speech and Language, Elsevier; Editorial Board member, Plosone; Action Editor, Neural Networks, Elsevier; Associate Editor, Sadhana, Springer; Springer Nature CS, Springer. He has served as an Editorial Board Member, Machine Translation, Springer.

He is an awardee of the "Best Innovative Project Award from the Indian National Academy of Engineering", Govt. of India, "JSPS Invitation Fellowship" from Govt of

Japan and "Visvesvaraya Young Faculty Research Fellowship Award" of the Govt. of India.

Google Scholar Citation which is the benchmark for Computer Science and Engineering shows **8918 career citations** to Dr. Asif's papers. His **h-index:** 46 and **i-10 index**: 204.

Professional Experience
- Serving as an Associate Professor in the Department of Computer Science and Engineering, IIT Patna, India since March 29, 2017
- Served as an Assistant Professor in the Department of Computer Science and Engineering, IIT Patna, India from January 27th, 2011 to March 28, 2017.
- Postdoctoral Research Fellow, Department of Information Engineering and Computer Science, University of Trento, Italy, September, 2010-January, 2011 and May-July, 2011
- Postdoctoral Research Fellow, Department of Computational Linguistics, Heidelberg University, September, 2009-June, 2010.

Visiting Positions

- Visiting Scientist (JSPS Fellow), Kyoto University, Japan, March, 2018-August, 2018
- Visiting Professor, University of Hamburg, Germany, May-July, 2017.
- Visiting Professor, Language Technology Group, Darmstadt University, Germany, May-July, 2016.
- Visiting Professor, University of Caen, France, May-June, 2016.
- Visiting Research Scientist, University of Caen, France, December, 2014
- Visiting Research Scientist, University of Caen, France, June-July, 2014

Background (Projects, tutorials, publications, patents)

- No of Sponsored Projects in conversational AI: 5 (*Industry as well as Govt Sponsored*)
- No. of PhD scholars supervising (in conversational AI): 7 (ongoing) + 2 (completed)
- No Masters thesis guided (in Conversational AI): 13
- No of keynotes/invited talks: 32 (e.g. Accenture, Microsoft, Huawei, LG Soft etc)

- Tutorial in IJCAI 2023
  - *Empathetic Conversational Artificial Intelligence Systems: Recent Advances and New Frontiers*

- Tutorial in IJCAI-2019
  - *Concept to Code: Aspect Sentiment Classification with Deep Learning*

- **Patents**
  - A Question Answering Mechanism in Restricted Domain, US Patent filed (with Accenture)
  - Generating Knowledge Graph from Conversations, US Patent Filed (with Accenture)

Total Publications: Journals: 101; Conferences: 196; Others: 55)

Complete List can be found here:
GoogleScholar: https://scholar.google.co.in/citations?user=IAL_F04AAAAJ&hl=en
DBLP: https://dblp.uni-trier.de/pers/hd/e/Ekbal:Asif
Semantic Scholar: https://www.semanticscholar.org/author/Asif-Ekbal/1734904

Publications (Conversational AI)

1. K. Mishra, P. Priya and A. Ekbal (2023). PAL to Lend a Helping Hand: Towards Building an Emotion Adaptive Polite and Empathetic Counseling Conversational Agent. In *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics (ACL)*, pp. 12254-12271, Canada Toronto.
2. P. Priya, K. Mishra, A. Ekbal (2023). PARTNER: A Persuasive Mental Health and Legal Counseling Dialogue System for Women and Children Crime Victims. In the *32nd International Joint Conference on Artificial Intelligence* (IJCAI), AI for Social Good Track, pp. 6183-6191 Macao, S.A.R.
3. Zishan Ahmad, Kshitij Mishra, Asif Ekbal, Pushpak Bhattacharyya (2023). RPTCS: A Reinforced Persona-aware Topic-guiding Conversational System**.** In *Proc. of EACL 2023*: 3464-3476
4. D. Varshney, A. Zafar, N. Behera, and Asif Ekbal (2023). Knowledge Graph Assisted End-to-End Medical Dialog Generation. In *Artificial Intelligence in Medicine*, Elsevier, 139, 102535 (IF- (IF-7.011) (*an outcome of Wipro collaboration*)
5. DS Chauhan, GV Singh, A Ekbal, P Bhattacharyya (2023). MHaDiG: A Multilingual Humor-aided Multiparty Dialogue Generation in multimodal conversational setting. Knowledge-Based Systems 278, 110840, Elsevier.
6. D. Varshney, A. Singh and A. Ekbal (2023). Aspect-level Sentiment-Controlled Knowledge Grounded Multimodal Dialog Generation using Generative Models for Reviews. Multimedia Tools and Application, Springer, https://doi.org/10.1007/s11042-023-16720-z.
7. Gopendra Vikram Singh, Soumitra Ghosh, Asif Ekbal, Pushpak Bhattacharyya (2023). DeCoDE: Detection of Cognitive Distortion and Emotion Cause Extraction in Clinical Conversations. In *proc. of ECIR (2)* 2023: 156-171
8. K. Mishra, A. Samad, P. Totala and A. Ekbal (2022). PEPDS: A Polite and Empathetic Persuasive Dialogue System for Charity Donation. In the *29th International Conference on Computational Linguistics (COLING)*, 424-440, October 12-17, Korea.
9. M. Firdaus, A. Ekbal and P. Bhattacharyya (2022). PoliSe: Reinforcing Politeness using User Sentiment for Customer Care Response Generation. In 2*9th International Conference on Computational Linguistics (COLING)*, 6165-6175, October 12-17, Korea.
10. D. Varshney, A. Prabhakar and A. Ekbal (2022). Commonsense and Named Entity Aware Knowledge Grounded Dialogue Generation. In *Proceedings of NAACL-HLT* 2022, 1322-1335, July 10-15, USA.
11. A. Samad, K. Mishra, M. Firdaus and A. Ekbal (2022). Empathetic Persuasion: Reinforcing Empathy and Persuasiveness in Dialogue Systems. In *Proceedings of NAACL-HLT 2022 (Findings)*, 844-856, July 10-15, USA.
12. Zishan Ahmad, Asif Ekbal, Subhashish Sengupta , Pushpak Bhattachharyya (2022). Neural Response Generation for Task Completion using Conversational Knowledge Graph,

PLosOne, https://doi.org/10.1371/journal.pone.0259238 (IF-3.752; h5 index: 180) (*in collaboration with Accenture*)

13. M. Firdaus, N. Thangavelu, A. Ekbal and P. Bhattacharyya (2022). I enjoy writing and playing, do you?: A Personalized and Emotion Grounded Dialogue Agent using Generative Adversarial Network. In IEEE Transaction on Affective Computing, doi: 10.1109/TAFFC.2022.3155105 (Impact factor- 10.305).

14. Kshitij Mishra, Mauajama Firdaus and Asif Ekbal (2022). Please be Polite: Towards building a Politeness Adaptive Dialogue System for Goal-oriented Conversations, Neurocomputing, 94, 242-254, Elsevier (IF-5.719; h5 index: 123).

15. K. Misra, M. Firdaus, A. Ekbal (2022). Predicting politeness variations in Goal-oriented Conversations. IEEE Transaction on Computational Social System, IEEE, doi: 10.1109/TCSS.2022.3156580 (IF-4.747; h5 index: 44).

16. Gopendra Vikram Singh, Mauajama Firdaus, Shambhavi, Shruti Mishra, Asif Ekbal (2022). *Knowing What to Say:* Towards knowledge grounded code-mixed response generation for open-domain conversations. Knowledge Based System, Elsevier, 249: 108900 (2022) (IF: 8.038; h5 index: 107).

17. Mauajama Firdaus, Asif Ekbal, Erik Cambria (2023). Multitask learning for multilingual intent detection and slot filling in dialogue systems**.** Information Fusion 91: 299-315 (2023), Elsevier. (IF-17.57)

18. Mauajama Firdaus, Nidhi Thakur, Asif Ekbal (2022). Sentiment Guided Aspect Conditioned Dialogue Generation in a Multimodal System. In *Proc. of ECIR (1)* 2022: 199-214.

19. S. Ghosh, G. Singh, A. Ekbal and P. Bhattacharyya (2022). COMMA-DEER: COmmon-sense aware Multimodal Multitask Approach for Detection of Emotion and Emotional Reasoning in Conversations. In t*he 29th International Conference on Computational Linguistics (COLING)*, 6978-6990 October 12-17, Korea

20. Firdaus, H. Chauhan, A. Ekbal and P. Bhattacharyya (2021). More the Merrier: Towards Multi-Emotion and Intensity Controllable Response Generation. In *Proceedings of AAAI 2021,* PP. *12821-12829.*

21. D. Vershney, A. Ekbal and P. Bhattacharyya (2021). Modeling Context Emotions using Multi-task Learning for Emotion-Controlled Dialogue Generation. In *Proceedings of EACL 2021,* PP. 2919-2931.

22. M. Firdaus, U. Jain, A. Ekbal and P. Bhattacharyya (2021). SEPRG: Sentiment aware Emotion controlled Personalized Response Generation. In *Proc. of the 14th International Conference on Natural Language Generation (INLG),* 353-363.

23. Mauajama Firdaus, Hitesh Golchha, Asif Ekbal, Pushpak Bhattacharyya (2021). A Deep Multi-task Model for Dialogue Act Classification, Intent Detection and Slot Filling. *Cognitive Computation* 13(3): 626-645 (2021), Springer (h5 index: 43; IF-5.418)

24. Mauajama Firdaus, Nidhi Thakur and Asif Ekbal (2021). Multi-Aspect Controlled Response Generation in a Multimodal Dialogue System using Hierarchical Transformer Network. In *Proc of 2021 International Joint Conference on Neural Networks (IJCNN). (h5-index:63)*

25. Mauajama Firdaus, Arunav Pratap Shandilya, Sthita Pragyan Pujari and Asif Ekbal (2021). Attribute Centered Multimodal Response Generation in a Dialogue System. In *Proc of 2021 International Joint Conference on Neural Networks (IJCNN). (h5-index:63)*

26. M Firdaus, N Thakur, A Ekbal (2021). Aspect-Aware Response Generation for Multimodal Dialogue System. In *ACM Transactions on Intelligent Systems and Technology (TIST)* 12 (2), 1-33. 1. (IF-3.971; h5-index: 38).

27. M. Firdaus, H. Chauhan, A. Ekbal and P. Bhattacharyya (2020). EmoSen: Generating Sentiment and Emotion Controlled Responses in a Multimodal Dialogue System (2020). *IEEE Transactions on Affective Computing, 10.1109/TAFFC.2020.3015491*. (Impact factor- 10.305)

28. Mauajama Firdaus, Nidhi Thakur, Asif Ekbal (2020). MultiDM-GCN: Aspect-Guided Response Generation in Multi-Domain Multi-Modal Dialogue System using Graph Convolution Network**. *In Proc. of EMNLP (Findings)* 2020: 2318-2328.
29. M. Firdaus, A.P Shandilya and A. Ekbal (2020). More to Diverse: Generating Diversified Responses in a Task Oriented Multimodal Dialog System. PLosONE, https://doi.org/10.1371/journal.pone.0241271**. (IF-3.752; h5 index: 180)
30. Mauajama Firdaus, Asif Ekbal, Pushpak Bhattacharyya (2020). Incorporating Politeness across Languages in Customer Care Responses: Towards building a Multilingual Empathetic Dialogue Agent. In *Proceedings of The 12th Language Resources and Evaluation Conference* (LREC), pp. 4171-4182. (h5 index: 49)
31. Hardik Chauhan, Mauzama Firdaus, Asif Ekbal and Pushpak Bhattacharyya (2019). Ordinal and Attribute Aware Response Generation in a Multimodal Dialogue System. In *Proceedings of Association for Computational Linguistics (ACL), pp. 5437-5447.*
32. M. Firdaus, H. Chauhan, A. Ekbal and P. Bhattacharyya (2020). MEISD: A Multimodal Multi-Label Emotion, Intensity and Sentiment Dialogue Dataset for Emotion Recognition and Sentiment Analysis in Conversations. *Proceedings of COLING 2020*, pp. 4441-4453.
33. Zishan Ahmad, Asif Ekbal, Shubhashis Sengupta, Anutosh Mitra, Roshni R. Rammani, Pushpak Bhattacharyya (2020). Active Learning Based Relation Classification for Knowledge Graph Construction from Conversation Data. In *Proceedings of ICONIP (4)* 2020: 617-625. (Core-A in 2020) (*with Accenture*)
34. M. Firdaus, N. Thangavelu, A. Ekbal and P. Bhattacharyya (2020). Persona aware Response Generation with Emotions. In *the 2020 International Joint Conference on Neural Networks (IJCNN)*, Glasgow, UK, July 2020. (h5 index: 63).
35. M. Firdaus, A. Kumar, A. Ekbal and P. Bhattacharyya (2019). A Multi-task Hierarchical Approach for Intent Detection and Slot Filling. *Knowledge based Systems*, Elsevier, ttps://doi.org/10.1016/j.knosys.2019.07.017. (IF-8.038; h5 index: 107).
36. Hitesh Golchha, Mauajama Firdaus, Asif Ekbal, and Pushpak Bhattacharyya (2019). Courteously Yours: Inducing courteous behavior in Customer Care responses using Reinforced Pointer Generator Network. In *Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL-HLT),* pp. 851-860. 2019. .

Awards / Recognitions

- Listed in top-2% scientists published by Stanford University (2021, 2022)
- Ranked in top Computer Science researcher list, published by Research.com (2022, 2023)
- Outstanding paper award from IEEE CIS for Year 2023
- Japanese Society for the Promotion of Science (JSPS) Invitation Fellowship, Japan, 2017 Japan.
- Visvesvaraya Young Faculty Research Fellowship, MeiTY, Govt. of India, 2017.
- Best Innovative Project Award, Indian National Academy of Engineering (INAE), 2000.
- European Union Fellowship for visiting Scientist, Dublin City University, Ireland (2019)
- European Union Fellowships for Postdoctoral Research at University of Heidelberg, Germany and University of Trento, Italy.
- Best Papers, COLING 2016 CLINICAL NLP Workshop; ICACCI 2012
- Most downloadable article, Data and Knowledge Engineering Journal, Elsevier
- AFNLP Nagao Fund Award for attending ACL 2006
- Travel support from AFNLP, Microsoft, NLPAI etc.

Sponsored R&D Projects involved (relevant to the tutorial)

1. Sevak- An Intelligent Indian Language Chatbot, Sponsored by Imprint2A, SERB, Govt of India, Value: INR 98 Lacs ($140473.20)- (*Role: PI*). (*The target is to build a Chatbot in English, Indian languages, and Code-mixed Languages in three important domains like Railways, Judiciary and Healthcare*).
2. An Empathetic Knowledge Grounded Conversational System for Mental Health Counseling and Legal Assistance, Sponsored by IHUB Anubhuti, TIH, IIIT Delhi, Value: 30 Lacs ($40802) (ongoing) (*Role: PI*)*.* (*The objective of this project is to build a dialogue agent to assist the victims for mental health counseling and legal assistance. Important attributes such as empathy and politeness are being incorporated*)*.*
3. Percuro-A Holistic Solution for Clinical Text Mining, Sponsored by Wipro Ltd, Value: INR 39 Lakhs ($53042.38) [**only for IIT Patna**] (Consortium partner: University of South Carolina, USA) (ongoing) (*Role: PI*) (*The target is to build question answering system with knowledge graph for the medical domain*)
4. Knowledge Grounded Conversational System, Sponsored by Accenture, India, Value: 2232375.00 ($30000) (completed) (*Role: PI*) (*It aimed at integrating external common sense knowledge to improve the quality of dialogue generation*)
5. Dynamic Knowledge Natural Language Generation, Sponsored by Samsung Research, Value: 18 Lacs ($24191) (ongoing) (*Role: PI*) (*This project aimed at integrating external unstructured knowledge for dialogue generation*)
6. HELIOS - Hate, Hyperpartisan, and Hyperpluralism Elicitation and Observer System, Sponsored by Wipro Ltd, India, Value: INR 42 Lacs ($55229) [**only for IIT Patna**] (Ongoing) (Consortium partners: UT Austin, USA; and IIIT Delhi, India) (*Role: PI*)
7. IITP Centre of Excellence in Cyber Crime Prevention against Women and Children- AI based Tools for Women and Children Safety, Sponsored by MHA, Govt of India, 284 Lakhs ($2113230459.69)- With other faculty members of IIT Patna (ongoing) (*Role: Joint-PI)*
8. Sentiment, Emotion, Sarcasm and Hate Speech Detection (SESH), Sponsored by CDOT, Value: 40 Lacs ($ 48131.00) (ongoing) (*Role: PI)*
9. Centre of Excellence for Natural Language Processing-IITP, Sponsored by Elsevier, Value: Rs. 213 Lacs ($ 295403.00) (Completed)
10. ATL IIT AI Lab (QA, Dialogue Systems), Sponsored by Accenture Pvt. Limited, Value: Rs. 65 Lac ($ 90146.00) (Completed) (*Role: Co-PI)*

Industry Collaboration

Elsevier, Flipkart, Wipro, Samsung Research, Accenture, ezDI

Industry consultancies:
- Neural Network and Application Training, TCS, 2019-2020, Rs. 540000 (Ongoing)
- Data Science Training on NLP, TCS, March-2014- Rs. 120,000.00 - completed
- Information Extraction, 2017, LG Soft Ltd, Rs. 750,000.00-Completed
- Machine Learning for Blackout Prediction, Bosch, Rs. 750,000.00 -completed
- Restaurant Recommendation System, LG Soft, 13.5 Lacs-completed

Student Guidance:

- Ph.D. Students Supervision (as sole or joint-supervisor): 16 (*ongoing*) (**Degree awarded/Thesis Completed-19**)

- Masters' theses guidance- 42 (completed), 3 (on-going) [*Six received DAAD-IIT Master Sandwich Fellowships; 5 received Chairman's Gold Medal; 5 received Best MTech Thesis Award*]
- Undergraduate project guidance- 65 (completed), 4 (on-going) [*Two received the best BTech project award; 1 received President Gold Medal; 1 received Kedar Nath Memorial Award; 1 received Director's Gold Medal for all round performance*]

Teaching

Have been teaching for the last 13 years.

Some of the courses that I have taught include the following:

Artificial Intelligence, Natural Language Processing, Foundations of Machine Learning, Advanced Machine Learning, Formal Language and Automata Theory, Theoretical Computer Science, Compilers, Fuzzy Sets and Artificial Intelligence

Outreach and Other Academic Responsibilities:

- Secretary, NLP Association of India
- Member, AI Standardization, Govt of India
- Co-Chair, The 29th International Conference on Neural Information Processing (ICONIP-2022), Nov 22-26, 2022
- Action Editor, Neural Network, Elsevier
- Associate Editor, ACM TALLIP, ACM
- Editorial Board Member, Computer Speech and Language, Elsevier
- Academic Editor, PlosOne
- Associate Editor, Sadhana, Springer; Machine Translation (now Language Resources and Evaluation), Springer; Springer Nature CS, Springer
- Chair-EACL 2021 Language Resources and Evaluation Track, NAACL 2019 QA Track
- Senior PC member: IJACI 2019, 2020, 2021; AAAI 2019, 2020, 2021, 2022
- Program Committee Member and/or Reviewer: ACL, EMNLP, IJCAI, AAAI, COLING, NAACL, LREC etc
- Journal Reviewer: IEEE Intelligent System, Artificial Intelligence, Language Resources and Evaluation, Bioinformatics, Information Systems, Knowledge based Systems etc.