Ishani Mondal
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EDUCATION

Present August 2022	University of Maryland, COLLEGE PARK, PhD in Computer Science and Engineering (CGPA : 3.96/4) Advisor : *Prof. Jordan Boyd-Graber* Human-in-the-loop AI LLMS and Reasoning Trustworthy systems Generative AI
March 2021 July 2017	Indian Institute of Technology, Kharagpur, , Master of Science (MS) in Computer Science and Engineering Advisors : *Prof. Pawan Goyal*, *Prof. Sudeshna Sarkar* CGPA : 9.53/10 (Thesis Submitted : February, 2020) Thesis Title : *Predicting similar and interacting entities from structured and unstructured biomedical resources*
July 2015 July 2011	Institute of Engineering and Management, , Affiliated to Maulana Abul Kalam Azad University of Technology, West Bengal Bachelor of Technology (B.Tech) in Computer Science and Engineering CGPA : 9.44/10 (Department Rank : 1 out of 100 students approx)

RESEARCH EXPERIENCE

August 2024 May 2024	Summer Research Intern, | MICROSOFT RESEARCH REDMOND, | Augmented Learning and Reasoning Advisors : *Dr. Jennifer Neville* , *Dr. Jay Stokes* ❯ Working on personalization of conversational agents through the study of Copilot Logs for diverse user groups in the Augmented Learning and Reasoning (ALR) Group
September 2023 June 2023	Summer Research Intern, | ADOBE RESEARCH, | Speech and Natural Language Processing Advisors : *Dr. Anandhavelu Natarajan* , *Dr. Aparna Garimella* ❯ Working on alignment of document transformation towards diverse persona ❯ Patent Filed and Paper accepted to EACL 2024
Present August 2022	Research Assistant, | COMPUTATIONAL LINGUISTICS LAB, | Speech and Natural Language Processing Advisor : *Dr. Jordan Boyd-Graber* ❯ Trust In Explainable Systems : Fact Checking/Question Answering (jointly with Prof. Hal Daume III) ❯ How do LLMs reason about failures ? : Reasoning for the right reasons ❯ Can we personalize AI systems using Reinforcement Learning with Human Feedback ? ❯ Zero-shot Information Extraction from Documents on-the-Fly and investigation of how much humans trust AI's decision making
Present July 2020	Research Fellow, | MICROSOFT RESEARCH INDIA, | Speech and Natural Language Processing Advisors : *Dr. Kalika Bali*, *Dr. Monojit Choudhury* ❯ Developing an end-to-end multilingual conversational agent which helps the patients understand their medical reports better. ❯ Exploring the gaps between the healthcare chatbots laid out as prototypes in the NLP based literature and the ones actually being deployed to use. ❯ Developing a pipeline for grapheme to phoneme converter for the low-resource Indian languages. ❯ Developing a linguistic annotation schema and annotation interface for the multilingual HIV living youth in Kenya, participating in an online peer support forum and performing sociolinguistic studies on their engagement patterns.

March 2020 April 2017	Project Officer, | IIT KHARAGPUR, | Computer Science and Engineering Department Advisors : *Prof. Sudeshna Sarkar*, *Prof. Pawan Goyal* Industrial Partner : *Excelra Knowledge Solutions, Hyderabad* › Worked on the main challenges of coreference resoution in mining the information about the biological entities like genes, drugs, diseases from the patents and journals. › Proposed novel methods for Drug-Drug Interaction Prediction and entity linking on medical entities.
June 2020 April 2020	Summer Research Intern, | IBM RESEARCH UK, | Speech and Natural Language Processing Advisors : *Dr. Yufang Hou*, *Dr. Charles Jochim*, *Prof. Debasis Ganguly* › Developed an end-to-end framework for the construction of NLP-based Knowledge Graph. › Proposed Active-Learning Based methods for enhancing explainability of classification models.
June 2019 April 2019	Summer Research Intern, | TCS RESEARCH INDIA, | Speech and Natural Language Processing Advisors : *Dr. Tirthankar Dasgupta*, *Dr. Lipika Dey* › Worked on implementing attention aware CNN-Bi-LSTM model for inclusion and exclusion criteria classification for the Clinical Trials and proposed a novel weakly-supervised co-training based method which can exploit a large pool of unlabeled criteria sentences to augment the limited supervised training data.
May 2017 October 2016	Research Assistant, | IIT BOMBAY, | Systems and Network Lab Advisors : *Prof. Abhay Karandikar* › Worked in a 5G Project where my role was to prepare a simulation of the RF planning tool aiming to dynamically update the OpenStreetMaps based on the link budget of the distributed nodes.

SOFTWARE DEVELOPMENT EXPERIENCE

October 2016 August 2015	Associate Software Engineer, | NOMURA RESEARCH INSTITUTE FINANCIAL TECHNOLOGIES INDIA PVT. LTD, › Developed web-application using JAVA based Spring Framework and Restful Web Services.

SELECTED PUBLICATIONS S=In Submission/In Progress, C=Conference

[C.15] SciDoc2Diagrammer-MAF : Towards benchmarking of Scientific Diagram Creation from Documents with Multi-Aspect Refinement
Ishani Mondal, Zongxia Li, Yufang Hou, Anandhavelu N, Aparna Garimella, Jordan Boyd-Graber
(EMNLP 2024)   [] 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[[]]

[C.14] CFMatch : Aligning Automated Answer Equivalence Evaluation with Expert Judgments For Open-Domain Question Answering
Zongxia Li, Ishani Mondal, Yijun Liang, Huy Nghiem, Jordan Boyd-Graber
arxiv pre-print 2024 (EMNLP 2024)   [✎] 　　　　　　　　　　　　　　　　　　　　　　　　　　[[✎]]

[S.2] InteractiveIE : Towards Assessing the Strength of Human-AI Collaboration in Improving the Performance of Information Extraction
Ishani Mondal, Michelle Yuan, Anandhavelu N, Aparna Garimella, Francis Ferraro, Andrew Blair-Stanek, Benjamin Van Durme, Jordan Boyd-Graber
arxiv pre-print 2024 (Under submission)   [✎] 　　　　　　　　　　　　　　　　　　　　　　　　[[✎]]

[S.1] ADVSCORE : A Metric for the Evaluation and Creation of Adversarial Benchmarks
Yoo Yeon Sung, Ishani Mondal, Eve Fleisig, Jordan Boyd-Graber
arxiv pre-print 2024 (Under submission to NEURIPS 2024)   [✎] 　　　　　　　　　　　　　　　[[✎]]

[C.13] Are the predictions and explanations provided by ChatGPT on Entity Recognition task robust under Adversarial Attack ?
Ishani Mondal, Abhilasha Sancheti
ICLR Tiny 2024   [✎] 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[[✎]]

[C.12] Presentations by the Humans and For the Humans : Harnessing LLMs for Generating Persona-Aware Slides from Documents
Ishani Mondal, Shweta S, Anandhavelu N, Aparna Garimella, Sambaran Bandopadhyay, Jordan Boyd-Graber
2024 (EACL 2024)   [✎] 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[[✎]]

[C.11] Intent Identification and Entity Extraction for Healthcare Queries in Indic Languages
Ankan Mullick, Ishani Mondal, Sourjyadip Ray, Raghav R, G Sai Chaitanya and Pawan Goyal
EACL Findings 2023   [✎] 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[[✎]]

[C.10] Explaining (Sarcastic) Utterances to Enhance Affect Understanding in Multimodal Dialogues
Shivani Kumar,Ishani Mondal,Md Shad Akhtar, Tanmoy Chakraborty
AAAI 2023   [✎] 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[[✎]]

[C.9] "DisabledOnIndianTwitter" : A Dataset towards Understanding the Expression of People with Disabilities on Indian Twitter
Ishani Mondal, Sukhnidh Kaur, Kalika Bali, Aditya Vashistha, Manohar Swaminathan
AACL-IJCNLP Findings 2022   [✎] 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[[✎]]

[C.8] Super-NaturalInstructions : Generalization via Declarative Instructions on 1600+ NLP Tasks
Yizhong Wang,..., Ishani Mondal....
EMNLP 2022   [✎] 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[[✎]]

[C.7] Global Readiness of Language Technology for Healthcare : What would it Take to Combat the Next Pandemic ? [✎]
Ishani Mondal, Kabir Ahuja, Mohit Jain, Jacki O'Neil, Kalika Bali, Monojit Choudhury
COLING 2022 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[COLING 2022]

[C.6] Understanding Sociolinguistic and Pragmatic Aspects of Peer Support in Multilingual Healthcare Conversations
Ishani Mondal, Mohit Jain, Kalika Bali, Monojit Choudhury, Jacki O'Neil
LREC 2022   [✎] 　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　[[✎]]

[C.5] End-to-End Construction of NLP Knowledge Graph   [✎][📹]
Ishani Mondal, Yufang Hou, Charles Jochim
Annual Conference of the Association for Computational Linguistics   Findings of ACL'21 　　　[Findings of ACL'21]

[C.4] BBAEG : Towards BERT-based Biomedical Adversarial Example Generation for Text Classification   [✎][📹]
Ishani Mondal
North American Chapter of the Association for Computational Linguistics   NAACL'21 　　　[NAACL'21]

[C.3] Multi-Objective Few-shot Learning for Fair Classification   [✎][📹]
Ishani Mondal, Procheta Sen, Debasis Ganguly
ACM International Conference on Information and Knowledge Management   CIKM'21 　　　[CIKM'21]

[C.2] ALEX : Active Learning based Enhancement of a Classification Model's EXplainability   [✎][📹]
Ishani Mondal, Debasis Ganguly
ACM International Conference on Information and Knowledge Management   CIKM'20 　　　[CIKM'20]

[C.1] Drug-Drug Interactions Prediction Based on Drug Embedding and Graph Auto-Encoder   [✎]
Ishani Mondal, Sukannya Purkayastha, Sudeshna Sarkar, Pawan Goyal, Jitesh K Pillai
IEEE 19th International Conference on Bioinformatics and Bioengineering   IEEE BIBE'19 　　[IEEE BIBE'19]

Workshop/Symposium Publications

[W.8] MunTTS : A Text-to-Speech System for Mundari [⚬]
Varun Gumma, Rishav Hada, Aditya Yadavalli, Pamir Gogoi, <u>Ishani Mondal</u>, Vivek Seshadri, Kalika Bali
The Use of Computational Methods in the Study of Endangered Languages   ComputEL-7@EACL'24   [ComputEL-7@EACL'24]

[W.7] A Linguistic Annotation Framework to Study Interactions in Multilingual Healthcare Conversational Forums [⚬]
<u>Ishani Mondal</u>, Kalika Bali, Mohit Jain, Monojit Choudhury, Ashish Sharma, Evans Gitau, Jacki O'Neill, Kagonya Awori, Sarah Gitau
15th Linguistic Annotation Workshop (LAW) and 3rd Designing Meaning Representations (DMR) Workshop   LAW-DMR@EMNLP'21   [LAW-DMR@EMNLP'21]

[W.6] BERTKG-DDI : Towards Incorporating Entity-specific Knowledge Graph Information in Predicting Drug-Drug Interactions [⚬]
<u>Ishani Mondal</u>
Workshop on Scientific Document Understanding (SDU)   SDU@AAAI'21   [SDU@AAAI'21]

[W.5] BERTChem-DDI : Improved Drug-Drug Interaction Prediction from text using Chemical Structure Information [⚬]
<u>Ishani Mondal</u>
Knowledgeable NLP : the First Workshop on Integrating Structured Knowledge and Neural Networks for NLP   KnowledgeableNLP@AACL-IJCNLP'20   [KnowledgeableNLP@AACL-IJCNLP'20]

[W.4] Extracting Semantic Aspects for Structured Representation of Clinical Trial Eligibility Criteria [⚬]
<u>Ishani Mondal</u>, Tirthankar Dasgupta, Abir Naskar, Sudeshna Jana, Lipika Dey.
3rd Clinical Natural Language Processing Workshop   ClinicalNLP@EMNLP'20   [ClinicalNLP@EMNLP'20]

[W.3] Automatic Segregation and Classification of Inclusion and Exclusion Criteria of Clinical Trials to improve Patient Eligibility Matching [⚬]
Tirthankar Dasgupta, <u>Ishani Mondal</u>, Abir Naskar, Sudeshna Jana, Lipika Dey
Explainable AI in Healthcare and Medicine   HealthIntelligence@AAAI'20   [HealthIntelligence@AAAI'20]

[W.1] Medical Entity Linking using Triplet Network [⚬]
<u>Ishani Mondal</u>, Sukannya Purkayastha, Sudeshna Sarkar, Pawan Goyal, Jitesh Pillai, Amitava Bhattacharyya, Mahanandeeshwar Gattu
2nd Clinical Natural Language Processing Workshop   ClinicalNLP@NAACL'19   [ClinicalNLP@NAACL'19]

Academic Service

Reviewer	PeerJ EMNLP'23, ACL'23, ClinicalNLP@EMNLP'23, Computer Science, BMC BioInformatics 2021, MLH4H@NeuriPS'21
Sub-Reviewer	ACL'21, NAACL'21, WSDM'21, LREC'20, CODS-COMAD'20, Code-Switching Workshop@EMNLP'21, RAI Workshop@KDD'21
Volunteer	GHCI'19, IRISS'19, ISCLS'19

Honours and Awards

Dean's Fellowship from University of Maryland (2022-2024)

Batch Topper by Computer Science Department, Institute of Engineering and Management in 2015

Merit Scholarship awarded in 2011 for being consistent topper in high-school

Grace-Hopper India Scholarship'19 [🌐]   For attending and presenting poster in 2019

Infosys Women Travel Grant [🌐]   For attending and presenting paper at NAACL in 2019

Teaching and Leadership Roles

SNLP Reading Group, MSR India *Organizer*   Jul'21 - Present
> Organize a weekly lab-wide Reading Group focused on research taking place in the area of Speech and Natural Language Processing (SNLP). We read recent, classical papers as well as arrange for external talks in related areas.

Technology for Emerging Market Reading Group, MSR India *Organizer*   Dec'21 - Present
> Organize a weekly lab-wide Reading Group focused on research taking place in the area of User-centered Technologies. We read classical papers and arrange for invited talks.

Introduction to Speech and Natural Language Processing (CS60057) *Lead Teaching Assistant*   July'19 - Dec'19
> **Course Instructor :** Prof. Sudeshna Sarkar
> Responsibilities included evaluating labs, and helping students with the coursework, lab assignments and projects.

Introduction to Machine Learning by NPTEL *Teaching Assistant*   July'19 - Dec'19
> **Course Instructor :** Prof. Sudeshna Sarkar
> Responsibilities included preparation of question papers and assignments for the students.

Introduction to Deep Learning (CS60010) *Teaching Assistant*   Jan'19 - May'19
> **Course Instructor :** Prof. Sudeshna Sarkar
> Responsibilities included evaluating labs, and helping students with the coursework and lab assignments.

Introduction to Speech and Natural Language Processing (CS60057) *Teaching Assistant*   July'18 - Dec'18
> **Course Instructor :** Prof. Sudeshna Sarkar
> Responsibilities included evaluating labs, and helping students with the coursework, lab assignments and projects.

Introduction to Programming and Data Structure (CS10001) *Teaching Assistant*   Jan'18 - May'18
> **Course Instructor :** Prof. Aritra Hazra
> Responsibilities included evaluating labs, and helping students with the coursework and lab assignments.

Talks and Presentations

"Multi-objective Few-shot Learning for Fair Classification"[■](**November 2021 (Remote)**)
"End to End Construction of Scientific Knowledge Graph"[■](**July 2021 (Remote)**)
"BBAEG : Towards BERT-based Biomedical Adversarial Example Generation for Text Classification"[■](**June 2021 (Remote)**)
"ALEX : Active learning based enhancement of a classification model's EXplainability"[■](**November 2020 (Remote)**)

Technical Skills

Languages	Python, C, Java , MATLAB, Bash Scripts
Frameworks	PyTorch, Keras, TensorFlow, NumPy, Pandas, Scikit-Learn, Scipy, NLTK, Spacy, Scispacy
DevOps and Version Control	Microsoft Azure, Amazon Web Services, Google Cloud, Git, SVN
Relevant CourseWork	Machine Learning, Deep Learning, Speech and Natural Language Processing, Information Retrieval, Algorithms, Programming and Data Structures, Object Oriented Programming, Discrete Mathematics

References

> Prof. Jordan Boyd-Graber . . . . . . *Associate Professor, Computer Science Engineering Department, University of Maryland* [❂]
> Prof. Hal Daume III *Associate Professor, University of Maryland and Senior Principal Researcher at Microsoft Research NYC* [❂]
> Prof. Pawan Goyal . . . . *Associate Professor, Computer Science Engineering Department, IIT Kharagpur* [❂]
> Prof. Sudeshna Sarkar . . . . *Professor, Computer Science Engineering Department, IIT Kharagpur* [❂]
> Prof. Abhay Karandikar . . . . *Professor and Director, Department of Electrical Engineering, IIT Kanpur* [❂]
> Prof. Debasis Ganguly . . . . *Assistant Professor, University of Glasgow, UK* [❂]
> Dr. Yufang Hou . . . . *Research Staff Member, IBM Research, UK* [❂]
> Dr. Kalika Bali . . . . *Principal Researcher, Microsoft Research, India* [❂]
> Dr. Monojit Choudhury . . . . *Principal Researcher, Microsoft Research, India* [❂]

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