ASHIQUR R. KHUDABUKHSH

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RESEARCH INTERESTS

My current research program lies at the intersection of key areas in artificial intelligence (AI), especially machine learning (ML) and natural language processing (NLP), with public policy and social science research questions

CURRENT EMPLOYMENT

Rochester Institute of Technology **2021-Present**
Department of Software Engineering (Data Science Division) and ESL Global Cybersecurity Institute
Tenure Track Assistant Professor (Current).

EDUCATION

Ph.D. **Carnegie Mellon University (CMU)** **2017**
Computer Science
Thesis: *Distributed Learning in Referral Networks*
Advisor: Prof. Jaime G. Carbonell
Thesis Committee: Profs. Manuel Blum, Manuela Veloso, and Victor Lesser (Univ. Mass. Amherst)

M.Sc. **University of British Columbia (UBC)**, Vancouver, Canada **2009**
Computer Science
Thesis: *SATenstein: Automatically Building SAT Solvers from Components*
Advisors: Profs. Kevin Leyton-Brown and Holger H. Hoos

B.Tech. West Bengal University of Technology Kolkata, India **2005**
Computer Science and Engineering

SUMMARY OF PUBLICATIONS

h-index: 11. Books: 1. Journal Publications: 4. Conference Publications: 37. Most Cited Paper: 221 citations.

Three most-significant publications (* = equal contribution first author)

Ashiqur R. KhudaBukhsh*, Rupak Sarkar*, Mark S. Kamlet, Tom M. Mitchell. *We Don't Speak the Same Language: Interpreting Polarization Through Machine Translation.* ***AAAI-21*** (preprint: https://arxiv.org/pdf/2010.02339v2.pdf).

Shriphani Palakodety*, Ashiqur R. KhudaBukhsh*, Jaime G. Carbonell. *Voice for the Voiceless: Active Sampling to Detect Comments Supporting the Rohingyas.* ***AAAI-20*** (preprint: https://arxiv.org/pdf/1910.03206.pdf).

Shriphani Palakodety*, Ashiqur R. KhudaBukhsh*, Jaime G. Carbonell. *Hope Speech Detection: A Computational Analysis of the Voice of Peace.* ***ECAI-20*** (preprint: https://arxiv.org/pdf/1909.12940.pdf).

SELECTED AWARDS AND HONORS

Featured Faculty for the 2023 Faculty Scholarship Report, RIT, 2023 **(single recipient across entire college)**.

Emerging Scholar Award at Golisano College of Computing and Information Sciences (GGCIS), RIT, 2022.

Best Paper Runner-up at the Int'l Conf. on Advances in Social Networks Analysis and Mining (ASONAM 2023), 2023.

Best Paper Runner-up at the 13th International Conference of Social Information (Soc Info 2022), 2022.

Best AAAI-2021 Student Abstract at AAAI Association of Artificial Intelligence (AAAI 2021), 2021.

Best Poster (6 awarded in total) at AI for Social Impact Workshop, CRCS, Harvard University, 2020.

Featured in the Premier List of AAMAS 2018 Papers at the *International Conference on Autonomous Agents and Multi-Agent Systems* (AAMAS-18), 2018.

SUMMARY OF TEACHING AND MENTORING EXPERIENCE

- Instructor for RIT graduate course (DSCI-789) on machine learning on political data. Faculty course evaluation: **4.67/5** (institute average: 4.14).
- Instructor for RIT graduate course (DSCI-602-I) on applied data science. Faculty course evaluation: **4.67/5** [Fall 2021] (institute average: 4.19) and **4.9/5** [Fall 2022] (institute average: 4.14).
- Instructor for RIT graduate course (DSCI-602-II) on applied data science. Faculty course evaluation: **4.71/5** (institute average: 4.19).
- Instructor for CMU graduate course (11-865) on tracking political sentiments using machine learning (team taught with Prof. Tom M. Mitchell and Prof. Mark S. Kamlet). Faculty course evaluation: **4.85/5** (institute average: 4.3).
- Instructor for 3 undergraduate courses at Jadavpur Univ (a top-ranking university in India) and West Bengal Univ.
- Teaching Assistant for 1 graduate course and 7 undergraduate courses at CMU and Univ. British Columbia: Artificial Intelligence, Graduate Algorithms, Complexity Theory, and Data Structures.
- Taught several Computer Science courses to High School students in IDEA Math Program.

- Mentored 1 Ph.D., 3 masters, and 3 undergraduate students yielding nine top-tier conference papers, a Cell Press Patterns journal paper, an AAAI best student-abstract award, and widespread international media attention.
- Co-mentored (with Prof. Tom M. Mitchell) two CMU graduate students for their independent studies and three CMU graduate students for their capstone projects.

PUBLICATIONS

Books

B1: Shriphani Palakodety, Ashiqur R. KhudaBukhsh, Guha Jayachandran
Low Resource Social Media Text Mining.
Springer, 2021.

Journal Publications (* = equal contribution first author)

J4: Kunal Khadilkar*, Ashiqur R. KhudaBukhsh*, Tom M. Mitchell
Gender Bias, Social Bias and Representation in Bollywood and Hollywood.
Patterns, volume 3, 2022. [**Highlight paper of the issue**]

J3: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell.
Expertise Drift in Referral Networks.
JAAMAS: Journal of Autonomous Agents and Multi-Agent Systems, volume 33.5, pp. 645-671, 2019.

J2: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell, Peter J. Jansen.
Robust Learning in Expert Networks: A Comparative Analysis.
JIIS: Journal of Intelligent Information Systems, volume 51.2, pp. 207-234, 2018.

J1: Ashiqur R. KhudaBukhsh*****, Lin Xu*, Kevin Leyton-Brown, Holger H. Hoos.
SATenstein: Automatically Building Local Search SAT Solvers from Components.
AIJ: Artificial Intelligence Journal, volume 232, pp. 20-42, March 2016. [**Nominated for AIJ award 2020**]

Refereed Conference Publications (* = equal contribution first author)

Published

C38: Madhav Hota, Adel Khorramrouz, Ashiqur R. KhudaBukhsh.
Novax or Novak? Estimating Social Media Stance towards Celebrity Vaccine Hesitancy (Student Abstract).
AAAI Association of Artificial Intelligence (AAAI-24), to appear.

C37: Cyril Weerasooriya*, Sujan Dutta*, Tharindu Ranasinghe, Marcos Zampieri, Christopher Homan, Ashiqur R. KhudaBukhsh. *Vicarious Offense and Noise Audit of Offensive Speech Classifiers: Unifying Human and Machine Disagreement on What is Offensive. Empirical Methods in Natural Language Processing*, (EMNLP 2023), to appear.

C36: Mohammed Afaan Ansari*, Jiten Sidhpura*, Vivek Kumar Mandal*, Ashiqur R. KhudaBukhsh.
Quantifying the Transience of Social Web Datasets.
International Conference on Advances in Social Networks Analysis and Mining, (ASONAM 2023), [**Best Paper Runner-up**].

C35: Sujan Dutta, Parth Srivastava, Vaishnavi Solunke, Swaprava Nath, Ashiqur R. KhudaBukhsh.
Disentangling Societal Inequality from Model Biases: Gender Inequality in Divorce Court Proceedings.
International Joint Conference on Artificial Intelligence, (IJCAI 2023), AI for Good Track [**20%**].

C34: Adel Khorramrouz, Sujan Dutta, Ashiqur R. KhudaBukhsh.
For Women, Life, Freedom: A Participatory AI Based Social Web Analysis of a Watershed Moment in Iran's Gender Struggles.
International Joint Conference on Artificial Intelligence, (IJCAI 2023), AI for Good Track [**20%**].

C33: Cyril Weerasooriya, Sarah Luger, Ashiqur R. KhudaBukhsh, Christopher M. Homan.
Subjective Human Majority for Subjective Data: Uncovering Meaningful Annotator Disagreement with Population-Level Learning.
Association for Computational Linguistics, (ACL 2023).

C32: Cyril Weerasooriya, Alexander Ororbia, Raj B. Bhensadadia, Ashiqur R. KhudaBukhsh, Christopher M. Homan. *Disagreement Matters: Preserving Label Diversity by Jointly Modeling Item and Annotator Label Distributions with DisCo.*
Association for Computational Linguistics (Findings), (ACL 2023).

C31: Clay H. Yoo, Ashiqur R. KhudaBukhsh.
Auditing and Robustifying COVID-19 Misinformation Data Sets via Anticontent Sampling.
AAAI Association of Artificial Intelligence (AAAI-23), Special Track on Safe and Robust AI [**19.6%**].

C30: Sujan Dutta, Beibei Li, Daniel S. Nagin, Ashiqur R. KhudaBukhsh.
A Murder and Protests, the Capitol Riot, and the Chauvin Trial: Estimating Disparate News Media Stance.
International Joint Conference on Artificial Intelligence, (IJCAI-ECAI 2022), AI for Good Track [**Oral, 15%**].

C29: Clay H. Yoo, Jiachen Wang, Yuxi Luo, Kunal Khadilkar, Ashiqur R. KhudaBukhsh.
Conversational Inequality through the Lens of Political Interruption.
International Joint Conference on Artificial Intelligence, (IJCAI-ECAI 2022), AI for Good Track [**Oral, 15%**].

C25: Ashiqur R. KhudaBukhsh*, Rupak Sarkar*, Mark S. Kamlet, Tom M. Mitchell.
Fringe News Networks: Dynamics of US News Viewership following the 2020 US Presidential Election.
ACM Web Science (WebSci-22).

C28: Keyu Chen, Marzieh Babaienjelodar, Yiwen Shi, Kamila Janmohamed, Rupak Sarkar, Ingmar Weber, Thomas Davidson, Munmun De Chowdhury, Jonathan Huang, Shweta Yadav, Ashiqur R. KhudaBukhsh, Preslav I. Nakov, Chris T. Bauch, Orestis Papakyriapoulos, Kaveh Khoshnood, Navin Kumar.
Partisan US News Media Representation of Syrian Refugees.
International Conference on Web and Social Media, (ICWSM 2023).

C30: Ashiqur R. KhudaBukhsh*, Shriphani Palakodety*, Tom M. Mitchell.
Addressing Resource Inequality for Peace and Health.
The 13th International Conference on Social Informatics, (SOC INFO 2022).

C29: Ramon Villa-Cox, Shuxuan (Helen) Zeng, Ashiqur R. KhudaBukhsh, Kathleen M. Carley.
Exploring Polarization of Users Behavior on Twitter During the 2019 South American Protests.
The 13th International Conference on Social Informatics, (SOC INFO 2022) [**Best Paper Runner-up**].

C24: Krithika Ramesh, Ashiqur R. KhudaBukhsh, Sumeet Kumar.
'Beach' to 'Bitch': Inadvertent Unsafe Transcription for Kids' Content on YouTube.
AAAI Association of Artificial Intelligence (AAAI-22), AI for Social Impact track [**Oral, 15%**].

C23: Ramon Villa-Cox, Shuxuan (Helen) Zeng, Ashiqur R. KhudaBukhsh, Kathleen M. Carley.
Exploring Polarization of Users' Behavior on Twitter During the 2019 South American Protests.
International Conference on Computational Social Science (IC2S2-21).

C22: Ashiqur R. KhudaBukhsh*, Rupak Sarkar*, Mark S. Kamlet, Tom M. Mitchell.
We Don't Speak the Same Language: Interpreting Polarization through Machine Translation.
AAAI Association of Artificial Intelligence (AAAI-21), AI for Social Impact track, pp. 14893 - 14901 [**Oral, 21%**].

C21: Rupak Sarkar, Ashiqur R. KhudaBukhsh.
Are Chess Discussions Racist? An Adversarial Hate Speech Data Set (Student Abstract).
AAAI Association of Artificial Intelligence (AAAI-21), pp. 15881 – 15882 [**Best AAAI-2021 Student Abstract**].

C20: Kunal Khadilkar, Ashiqur R. KhudaBukhsh.
An Unfair Affinity Toward Fairness: Characterizing 70 Years of Social Biases in B^{H}ollywood (Student Abstract).
AAAI Association of Artificial Intelligence (AAAI-21), pp. 15813-15814.

C19: Rupak Sarkar*, Sayantan Mahinder*, Hirak Sarkar, Ashiqur R. KhudaBukhsh.
Social Media Attributions in the Context of Water Crisis.
Empirical Methods in Natural Language Processing, (EMNLP 2020), pp. 1402-1412 [**Oral, 22.4%**].

C18: Ashiqur R. KhudaBukhsh*, Shriphani Palakodety*, Jaime G. Carbonell.
Harnessing Code Switching to Transcend the Linguistic Barrier.
International Joint Conference on Artificial Intelligence, (IJCAI-PRICAI 2020), pp. 4366-4374 [**Oral, 12.7%**].

C17: Shriphani Palakodety*, Ashiqur R. KhudaBukhsh*, Jaime G. Carbonell.
The Refugee Experience Online: Surfacing Positivity Amidst Hate.
European Conference on Artificial Intelligence, (ECAI-20), pp. 2925-2926.

C16: Shriphani Palakodety*, Ashiqur R. KhudaBukhsh*, Jaime G. Carbonell.
Mining Insights from Large-scale Corpora Using Fine-tuned Language Models.
European Conference on Artificial Intelligence, (ECAI-20), pp. 1890-1897 [**Oral, 26.8%**].

C15: Shriphani Palakodety*, Ashiqur R. KhudaBukhsh*, Jaime G. Carbonell.
Hope Speech Detection: A Computational Analysis of the Voice of the Peace.
European Conference on Artificial Intelligence, (ECAI-20), pp. 1881-1889 [**Oral, 26.8%**].

C14: Shriphani Palakodety*, Ashiqur R. KhudaBukhsh*, Jaime G. Carbonell.
Voice for the Voiceless: Active Sampling to Detect Comments Supporting the Rohingyas.
AAAI Association of Artificial Intelligence (AAAI-20), AI for Social Impact track, pp. 454-462 [**Oral, 5.7%**].

C13: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell.
Toward Reciprocity-Aware Distributed Learning in Referral Networks.
Pacific Rim International Conference on Artificial Intelligence (PRICAI-19), pp. 121-135.

C12: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell.
Endorsement in Referral Networks.
European Conference on Multi-Agent Systems (EUMAS-18), pp. 172-187, 2018.

C11: Ashiqur R. KhudaBukhsh, Jong Woo Hong, Jaime G. Carbonell.
Market-aware Proactive Skill Posting.
International Symposium on Methodologies for Intelligent Systems (ISMIS-18), pp. 323-332, 2018.

C10: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell.
Expertise Drift in Referral Networks.
International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS-18), 2018 [**Oral, 6.7%**].

C9: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell, Peter J. Jansen.
Incentive Compatible Proactive Skill Posting in Referral Networks.
European Conference on Multi-Agent Systems (EUMAS-17), pp. 29-43, 2017.

C8: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell, Peter J. Jansen.
Robust Learning in Expert Networks: A Comparative Analysis.
International Symposium on Methodologies for Intelligent Systems (ISMIS-17), pp. 292-301, 2017.

C7: Ashiqur R. KhudaBukhsh, Peter J. Jansen, Jaime G. Carbonell.
Distributed Learning in Expert Referral Networks.
European Conference on Artificial Intelligence, (ECAI-16), pp. 1620-1621, 2016.

C6: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell, Peter J. Jansen.
Proactive Skill Posting in Referral Networks.
Australasian Joint Conference on Artificial Intelligence, pp. 585-596, 2016.

C5: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell, Peter J. Jansen.
Proactive-DIEL in Evolving Referral Networks.
European Conference on Multi-Agent Systems (EUMAS-16), pp. 148-156, 2016.

C4: Lin Xu*, Ashiqur R. KhudaBukhsh*****, Kevin Leyton-Brown, Holger H. Hoos.
Quantifying the Similarity of Algorithm Configurations.
Learning and Optimization Conference (LION 10), pp. 203-217, 2016.

C3: Ashiqur R. KhudaBukhsh, Paul N. Bennett, Ryen W. White.
Building Effective Query Classifiers: A Case Study in Self-harm Intent Detection.
International Conference on Information and Knowledge Management (CIKM), pp. 1735-1738, 2015.

C2: Ashiqur R. KhudaBukhsh, Jaime G. Carbonell, Peter J. Jansen.
Detecting Non-adversarial Collusion in Crowdsourcing.
Conference on Human Computation and Crowdsourcing (HCOMP), pp. 517-524, 2014.

C1: Ashiqur R. KhudaBukhsh, Lin Xu, Kevin Leyton-Brown, Holger H. Hoos.
SATenstein: Automatically Building Local Search SAT Solvers from Components.
International Joint Conference on Artificial Intelligence (IJCAI), pp. 517-524, 2009 [**Oral, 25.7%**].

Workshop Publications (* = equal contribution first author)

Published

W6: Krithika Ramesh, Sumeet Kumar, Ashiqur R. KhudaBukhsh.
Revisiting Queer Presence in Lexicons.
NAACL 2022 Workshop on Online Abuse and Harm.

W5: Clay Yoo, Shriphani Palakodety, Rupak Sarkar, Ashiqur R. KhudaBukhsh.
Empathy and Hope: Resource Transfer to Model Inter-country Social Media Dynamics.
ACL 2021 NLP for Positive Impact Workshop.

W4: Rupak Sarkar, Sayantan Mahinder, Ashiqur R. KhudaBukhsh.
The Non-native Speaker Aspect: Indian English in Social Media.
Empirical Methods in Natural Language Processing (EMNLP) 2020, W-NUT.

W3: Shriphani Palakodety*, Ashiqur R. KhudaBukhsh*.
Annotation Efficient Language Identification from Weak Labels.
Empirical Methods in Natural Language Processing (EMNLP) 2020, W-NUT.

W2: Kunal Khadilkar, Ashiqur R. KhudaBukhsh.
An Unfair Affinity Toward Fairness: Characterizing 70 Years of Social Biases in B[H]ollywood.
Empirical Methods in Natural Language Processing (EMNLP) 2020, NLP-CSS.

W1: Ashiqur R. KhudaBukhsh*, Shriphani Palakodety*, Jaime G. Carbonell.
On NLP Methods Robust to Noisy Indian Social Media Data.
AI for Social Good, (Harvard University, CRCS 2020).

Working Papers and Under Review
R5: Adel Khorramrouz, Sujan Dutta, Arka Dutta, Ashiqur R. KhudaBukhsh.
Down the Toxicity Rabbit Hole: Investigating PaLM 2 Guardrails.

R4: Adel Khorramrouz*, Mahbeigom Fayyazi*, Ashiqur R. KhudaBukhsh.
A Survival Guide for Women in Iran: Harnessing LLMs and Participatory AI to Investigate Intimate Partner Physical Violence in Iran.

R3: Md Towhidul A. Chowdhury, Soumyajit Datta, Naveen Kumar, Ashiqur R. KhudaBukhsh.
Infrastructure Ombudsman: Mining Future Failure Concerns from Structural Disaster Response.

R2: Tiasa Singha Roy, Mallikarjuna Tupakula, Ashiqur R. KhudaBukhsh, Sumeet Kumar.
A Multi-Modal Approach to Study Gender Stereotypes in Kids' Videos.

R1: Sujan Dutta*, Mallikarjuna Tupakula*, Sumeet Kuma, Ashiqur R. KhudaBukhsh.
Anonymous Dissent in the Digital Age: A Case Study on YouTube Dislikes.

Non-technical Publications (collection of poems)
B3: Kalam Dani (*The Penholder*, Shudhu Bighe Dui, 2016) condemns the suppression of freedom of speech in the recent context of bloggers from Bangladesh.

B2: Baraf Bondir Diary (*Trapped in the Snow*, SristiSukh, 2015) is a take on our newest epidemic – loneliness.

B1: Ghum Naam-er Pahar (*The Sleepy Mountain*, SristiSukh, 2013) is a romantic travelogue set into verses.

GRANTS

2023 – 2024. *Through the Toxicity Rabbit Hole (and Out Again): Toward Robust Audits of Generative AI Safety*. RIT ESL Global Cybersecurity Institute Seed Funding. Outcome: Awarded. Awarded amount: $16,000 (Co-PI: Shanchieh Yang).

2022 – 2023. *Understanding the Long and Short-term Impact of YouTube's Updated Dislike Policies on Dissenting Voices.* RIT Grant Writers Boot Camp Seed Funding. Outcome: Awarded. Awarded amount: $5,000.

2022 – 2023. *Noise Audit of Offensive Speech Classifiers and Vicarious Offense.* RIT ESL Global Cybersecurity Institute Seed Funding. Outcome: Awarded. Awarded amount: $20,000.

2023 – Present. Public Interest Computation Initiative (Onai).

2016 – 2017. *EAGER: Distributed Learning in Expert Referral Networks*, National Science Foundation (NSF).
Role: Co-author Outcome: Awarded. Federal award id: 1649225, PI: Jaime G. Carbonell, awarded amount: $90,000.

Departmental Professional Service

GCCIS Outstanding Scholar Awards Committee 2023-2024 (**member**).

GCCIS Emerging Scholar Awards Committee 2023-2024 (**member**).

Software Engineering Department Faculty Search Committee 2022-2023 (**member**).

Software Engineering Department Awards Committee 2021-2022 (**member**).

Software Engineering Department Faculty Evaluation Committee 2021-2022 (**member**).

External Professional Service

The 2023 Conference on Empirical Methods in Natural Language Processing (EMNLP 2023, **senior area chair**).

The 38th Annual AAAI Conference on Artificial Intelligence (AAAI 2024, **senior program committee**).

The 16th ACM Web Science Conference (WebSci'24, **senior program committee**).

The 32nd International Joint Conference on Artificial Intelligence (IJCAI 2023, **senior program committee**).

The 32nd International Joint Conference on Artificial Intelligence (IJCAI 2023, **session chair**).

The 3rd Social Media and Society in India Conference (SMSI 2023, **session chair**).

The 9th International Workshop on Mining Actionable Insights from Social Networks (MAISoN 2023, **organizing committee**).

The Sixth Workshop on Noisy User-Generated Text (EMNLP W-NUT 2020, **program committee**).

The First Workshop on Combating Online Hostile Posts in Regional Languages during Emergency Situation (AAAI CONSTRAINT 2021, **steering committee**).

The Twenty-ninth International Joint Conference on Artificial Intelligence (IJCAI-PRICAI 2020, **session chair**).

Conference Reviewing Activity

The 17th International AAAI Conference on Web and Social Media (ICWSM 2023).

The 15th ACM Web Science Conference (ACM WebSci 2023).

The 29th International Conference on Computational Linguistics (COLING 2022).

The Second ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO'22).

The Tenth International Conference on Learning Representation (ICLR 2022, 2023).

International Conference on Machine Learning (ICML 2021, 2022).

The Joint Conference of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (ACL-IJNLP 2021).

The Twenty-fourth International Conference on Artificial Intelligence and Statistics (AISTATS 2021).

AAAI Conference on Artificial Intelligence (AAAI 2021, 2022, 2023, 2024).

Neural Information Processing Systems (NeurIPS 2018, 2019, 2020, 2021, 2022, 2023).

The Fourth Workshop on Online Abuse and Harms (EMNLP WOAH 2020, 2021).

The Twenty-ninth International Joint Conference on Artificial Intelligence (IJCAI-PRICAI 2020).

International ACM SIGIR Conference on Research and Development in Information Retrieval, (SIGIR 2016, 2017).

Teaching Experience

Course: Applied Data Science. Role: ***Instructor.***
Offered at: Rochester Institute of Technology, Rochester, New York. August 2022 – December 2022. Faculty course evaluation: **4.9/5** (institute average: 4.14).

Course: Machine Learning on Political Data. Role: ***Co-instructor*** with Prof. Mark S. Kamlet.
Offered at: Rochester Institute of Technology and Carnegie Mellon University. August 2022 – December 2022. Faculty course evaluation: **4.67/5** (institute average: 4.14).

Course: Applied Data Science. Role: ***Instructor.***
Offered at: Rochester Institute of Technology, Rochester, New York. January 2022 – May 2022. Faculty course evaluation: **4.71/5** (institute average: 4.19).

Course: Applied Data Science. Role: ***Instructor.***
Offered at: Rochester Institute of Technology, Rochester, New York. August 2021 – December 2021. Faculty course evaluation: **4.67/5** (institute average: 4.19).

Course: Tracking Political Sentiments Using Machine Learning.
Role: ***Co-instructor*** with Prof. Mark S. Kamlet and Prof. Tom M. Mitchell.
Offered at: Carnegie Mellon University, Pittsburgh, Pennsylvania. September 2020 – December 2020. Faculty course evaluation: **4.85/5** (institute average: 4.3).

Course: Three 8-hour sessions on Sorting and Searching for high school students at the Idea Math program.
Role: ***Instructor.***
Offered at: Carnegie Mellon University, Pittsburgh, Pennsylvania. Summer 2013.

Course: Two 8-hour sessions on Sorting and Searching for high school students at the Idea Math program.
Role: ***Joint Instructor*** with Anvesh Komuravelli.
Offered at: Carnegie Mellon University, Pittsburgh, Pennsylvania. Summer 2012.

Course: Introduction to Computer Programming and Numerical Methods. Role: ***Guest Faculty Member.***
Offered at: Jadavpur University, Kolkata, India. January 2011 – May 2011.

Course: Undergraduate Artificial Intelligence, Undergraduate Design and Analysis of Algorithms.
Role: ***Visiting Faculty Member.***
Offered at: Kalyani Government Engineering College, Kalyani, India. August 2010 – December 2010.

Course: Undergraduate Artificial Intelligence. Role: ***Visiting Faculty Member.***
Offered at: Kalyani Government Engineering College, Kalyani, India. August 2005 – December 2005.

Mentoring Experience

Year	Student's name	Outcome
2021-	Sujan Dutta (RIT)	Published four papers at IJCAI 2022, 2023, and EMNLP 2023. Received **2022 Language Science and Computational Linguistics Student Excellence Award** at RIT.
2021-	Adel Khorramrouz (RIT)	Published a paper at IJCAI 2023.
2021-22	Vaishnavi Solunke (RIT)	Published a paper at IJCAI 2023.
2022-	Madhav Hota (IMSA)	Published a paper at AAAI 2024 student abstract program.
2019-21	Rupak Sarkar (KGEC)	Published long papers at EMNLP 2020, AAAI 2021, ACM Web Science. Workshop papers at EMNLP 2020 (WNUT), IJCAI AI for social good workshop 2020, ACL NLP for positive impact workshop (2021). Won **Best AAAI Student Abstract** at AAAI 2021. Admitted to the **CS PhD program** at University of Maryland, College Park.

2021-22	Krithika Ramesh (MU)	Published papers at AAAI 2022, WOAH-NAACL 2022. Admitted to the **CS PhD program** at Johns Hopkins University.
2020-21	Kunal Khadilkar (CMU)	Published papers at IJCAI 2022, Cell Press Patterns 2022, AAAI (SA) 2021, IJCAI AI for social good workshop 2020. Invited to present a **TEDx talk** at the University of Wisconsin Madison on ongoing and evolving racial inequalities.
2021	Clay Yoo (CMU)	Published papers at IJCAI 2022, AAAI 2023, and ACL NLP for positive impact workshop 2021.
2018	Jong Woo Hong (CMU)	Published a paper at ISMIS 2018

RIT: Rochester Institute of Technology; MU: Manipal University; KGEC: Computer Science Department, Kalyani Government Engineering College, Kalyani, India; IMSA: Illinois Math and Science Academy; CMU: Computer Science Department, Carnegie Mellon University.

Previous Employments

Carnegie Mellon University, Pittsburgh, Pennsylvania. March 2018 – Aug 2021.
Post-doctoral Associate and Project Scientist in the Language Technologies Institute, working with Prof. Jaime Carbonell and Prof. Tom Mitchell.

Carnegie Mellon University, Pittsburgh, Pennsylvania. August 2011 – December 2017.
Research Assistant in the Department of Computer Science, working with Prof. Jaime Carbonell.

Yahoo! Research, Sunnyvale, California. May 2017 – August 2017.
Research Intern working with Dr. Narayan Bhamidipati.

Microsoft Research, Redmond, Washington. May 2014 – August 2014.
Research Intern working with Dr. Paul N. Bennett and Dr. Ryen W. White.

Jadavpur University, Kolkata, India. January 2011 – May 2011.
Guest Faculty Member in Computer Science Department.

Kalyani Govt. Engineering College, Kalyani, India. August 2010 – December 2010.
Visiting Faculty Member in Computer Science Department.

Microsoft Corporation, Redmond, Washington. February 2009 – February 2010.
Software Development Engineer in Quadrant Version 1 Team.

University of British Columbia, Vancouver, Canada. July 2008 – August 2008.
Research Assistant in the Department of Computer Science, working with Prof. Kevin Leyton-Brown and Prof. Holger H. Hoos.

Microsoft Corporation, Redmond, Washington. June 2007 – August 2007.
Software Development Engineer Intern in Quadrant Version 1 Team.

Cognizant Technology Solutions, Kolkata, India. January 2006 – July 2006.
Programming Analyst Trainee.

Kalyani Govt. Engineering College, Kalyani, India. August 2005 – December 2005.
Visiting Faculty Member, in Computer Science Department.

Awards and Honors

Featured Faculty for the 2023 Faculty Scholarship Report, RIT, 2023 **(single recipient across entire college)**.

Best Paper Runner-up at the Int'l Conf. on Advances in Social Networks Analysis and Mining (ASONAM 2023), 2023.

Emerging Scholar Award at Golisano College of Computing and Information Sciences, Rochester Institute of Technology, 2022.

Best Paper Runner-up at the 13th International Conference of Social Information (Soc Info 2022), 2022.

Best AAAI-2021 Student Abstract at AAAI Association of Artificial Intelligence (AAAI 2021), 2021.

Best Poster (6 awarded in total) at AI for Social Impact Workshop, CRCS, Harvard University, 2020.

Featured in Premier List of AAMAS 2018 Papers for *Expertise Drift in Referral Networks; International Conference on Autonomous Agents and Multi-Agent Systems* (AAMAS-18), 2018.

AIJ Award 2020 Nomination for *SATenstein: Automatically Building Local Search SAT Solvers from Components; AIJ: Artificial Intelligence Journal*, volume 232, pp. 20-42, March 2016.

ACM Grant ($1,100) for presenting at CIKM 2015.

AI 2016 Grant (AUD 400) for presenting at the Australasian Joint Conference on Artificial Intelligence (AI 2016).

International Partial Tuition Scholarship and full assistantship for pursuing M.Sc (Master of Science) in Computer Science, in University of British Columbia (2006).

University Graduate Fellow (UGF) Award from EECS department, Vanderbilt University (2006). (declined).

MHRD (Ministry of Human Resource Development) Scholarship for pursuing M.E (Master of Engineering) in Internet Science in Indian Institute of Science, Bangalore, 2006 (declined).

Ranked 55 among 22,393 participants in GATE (Graduate Aptitude Test in Engineering, a nationwide technical examination conducted by IITs and IISc) (2006).

Silver Medal from Governor of West Bengal for standing second in Computer Science Department (top 0.2%) of West Bengal University of Technology (2006).

National Merit Scholarship for ranking 21st among 372,928 students in the Higher Secondary Examination of West Bengal, India (2001).

State Government Award and *National Merit Scholarship* for ranking 12th among 529,329 students in the Secondary Examination of West Bengal, India (1999).

SELECTED MEDIA COVERAGE

AI Research Team at RIT Publish Findings on Generative Harmful Content, **RIT Press Release**, October 2023.

OpenAI Chief Sam Altman meets Pres. Yoon and Says S. Korea Should Focus on Chips, Within the Frame (**Primetime news panel discussion**), Arirang News, June 2023.

ChatGPT: The Most Disruptive Tech of the Century, Connected World Magazine, June 2023.

AI Chatbot Craze Continues, Issues and Insiders (**news panel discussion**), Arirang News, March 2023.

Harper's Index, Harper's Magazine, February 2023.

For Trump's Backers in Congress, 'Devil Terms' Help Rally Voters, New York Times (**Sunday edition front page news**), October 2022.

Men Get MORE Airtime than Women: AI Analysis of Thousands of Segments on CNN, Fox News and MSNBC Shows Females Were Given 10% Less of a Chance to Speak - and Were More Frequently Interrupted, Daily Mail UK, October 2022.

Lost in AI Transcription: Adult Words Creep into YouTube Children's Videos, Indian Express (**Sunday edition front page news**), April 2022.

YouTube's Captions Insert Explicit Language in Kids' Videos, Wired, February 2022.

Bollywood Study Reveals History of Gender Bias Reflecting Real Life, Nature India, February 2022.

When Scientists Use Machine Learning to Spot Bad Lines in 700 Bollywood Films, Science the Wire, December 2021.

The Science of Political Polarization, CMU Science Magazine (**cover story**), August 2021.

India COVID-19: AI Shows Pakistani Twitter Prayed for Neighbour, BBC, July 2021.

85% of Pak's Tweets on 2nd Wave Crisis Were in Support of India, Times of India, July 2021.

Despite Hostilities, Pakistanis Prayed for India during COVID-19 Crisis: Study, Geo TV, July 2021.

Despite Hostilities, Pakistanis Prayed for India during COVID-19 Crisis: Study, **CMU Press Release**, July 2021.

AI Shows Bollywood Obsessions with Fair Skin and Sons, BBC, June 2021.

Fair is Still Lovely, Men Still Come First: Findings from an AI-led Study of Bollywood Films, Hindustan Times, April 2021.

*The John Oakley Show (**live interview**),* Global News, Toronto 640, March 2021.

Pittsburgh Researchers Use AI to Study Bias in Bollywood, Hollywood Films, Pittsburgh NPR, March 2021.

Por qué YouTube Bloqueó Video de Ajedrez por Inciter al Odio, Digital Trends (espanol), March 2021.

Online Chess Has a Problem: AI Flags Black vs White as Hate Speech, Indian Express (**front page news**), March 2021.

Why YouTube Banned Agadmator's Hikaru Interview, Hikaru Nakamura's (current world #1 blitz chess player, peak classical chess ranking: #2) Official YouTube Channel, March 2021.

AI Finds Bollywood's Association of Beauty With Fair Skin Unchanged, The Hindu, March 2021.

AI Flags "Black" and "White" Language of Chess as Racist, Mind Matters, March 2021.

AI to Detect Bias in Indian Entertainment Industry, India AI (Indian Government AI portal), March 2021.

YouTube Blokkeert Schaker om Woorden 'Zwart' en 'Wit', De Telegraaf, March 2021.

Why a YouTube Chat About Chess Got Flagged for Hate Speech, Wired, February 2021.

Bollywood Movies Still Associate Beauty with Fair Skin, AI Study Finds, Vice, February 2021.

Bollywood Movies Continue to Associate Beauty with Fair Skin, AI Study Finds, The Next Web, February 2021.

AI Identifies Social Bias Trends in Bollywood, Hollywood Movies, **CMU Press Release**, February 2021.

Il Bianco Attacca Il Nero, YouTube Blocca il Canale di Scacchi per Contenuti Razzisti, Corriere della Sera, February 2021.

YouTube AI Blocked Chess Channel after Confusing 'Black' and 'White' for Racist Slurs, News18, February 2021.

YouTube's AI Blocks Channel After Allegedly Mistaking Discussions about Chess Pieces being 'Black' and 'White' for Racist Slurs, DailyMail, February 2021.

Kings and Queens of Chess May Trip up AI Systems Meant to Monitor Online Communication, Pittsburgh Post-Gazette, February 2021.

Pieces of Color: When YouTube's Oversensitive Filters Thinks Chess Videos Are Racist, Will Language have to Adapt to Big-tech? RT, February 2021.

AI Mistake "Black and White" Chess Chat at Racism, Independent, February 2021.

AI May Mistake Chess Discussions as Racist Talk, **CMU Press Release**, February 2021.

Newsmax and OAN: How are the Ultra-conservative Cable Channels Coping Without Trump in the White House, Independent, February 2021.

Don't Blame Fox News for the Attack on the Capitol, The Conversation, Houston Chronicle, Salon, January 2020.

Speaking Different Languages, Pittsburgh Post-Gazette, November 2020.

A Protest to One is a Riot to Another: CMU Studies the Polarization of Our Words, NextPittsburgh, November 2020.

Fox News Viewers Write About 'BLM' the Same Way CNN Viewers Write About 'KKK', Yahoo! News, October 2020.

Carnegie Mellon Study Finds Severe Polarization in Political Language, Tribune-Review, October 2020.

Mask Vs. Muzzle: Even Words Are Now Polarized, Futurity, October 2020.

Fox News Viewers Write About 'BLM' the Same Way CNN Viewers Write About 'KKK', The Conversation, Houston Chronicle, Salon, October 2020.

The Left and the Right Speak Different Languages -Literally, Wired, October 2020

Even Our Language is Polarized, **CMU Press Release**, October 2020.

Carnegie Mellon Continues its Research on 'Hostility-diffusing, Peace-seeking Hope Speech', Pure AI, August 2020.

New AI System to Help Counter Online Hate Speech, Times of India, January 2020.

Carnegie Mellon Researchers Propose AI that Surfaces Positive Online Comments, VentureBeat, January 2020.

Filter by Positivity: This New A.I. Could Detoxify Online Comment Threads, Digital Trends, January 2020.

New AI System to Counter Online Hate Directed at Rohingyas, The Quint, January 2020.

AI Technology Can Curb Hate Speech Against Rohingyas, Daily World, January 2020.

Carnegie Mellon Uses AI to Counter Online Hate Speech with 'Hope Speech', Pure AI, January 2020.

Carnegie Mellon Leverages AI to give Voice to the Voiceless, **CMU Press Release**, January 2020.

SELECTED INVITED TALKS

Novel Frameworks for Quantifying Political Polarization and Mitigating Hate Speech, School of Information and Department of Government and Politics, University of Maryland, March 8, 2023.

Novel Frameworks for Quantifying Political Polarization and Mitigating Hate Speech, National Research Council, Canada, March 3, 2023.

Reimagining Machine Translation and Text Classification to Understand News Media and Politics, Indo-ML 2022, IIT Gandhinagar, December 16, 2022.

Novel Frameworks for Quantifying Political Polarization and Mitigating Hate Speech, Colloquium Talk, Department of Linguistics, University of Pittsburgh, November 11, 2022.

How Do We Create Welcoming Online Spaces? Panelist at Hello Wednesday, Orange Silicon Valley, October 12, 2022.

Natural Language Processing Methods to Interpret Political Polarization in News Media and User Responses, Center for Human-Aware AI (CHAI) Seminar, Rochester Institute of Technology, September 12, 2022.

Novel Frameworks for Quantifying Political Polarization and Mitigating Hate Speech, University of Rochester, September 9, 2022.

Social, Cultural, and Political Biases and Blind Spots in AI, Apple, Seattle, July 13, 2022.

Social, Cultural, and Political Biases and Blind Spots in AI, Microsoft Research, India, June 7, 2022.

A Murder and Protests, the Capitol Riot, and the Chauvin Trial: Estimating Disparate Media Stance, Max Planck Institute, May 30, 2022 **(jointly presented with Daniel S. Nagin)**.

A Murder and Protests, the Capitol Riot, and the Chauvin Trial: Estimating Disparate Media Stance, Annenberg Center of Public Policy, University of Pennsylvania, May 12, 2022 **(jointly presented with Daniel S. Nagin)**.

Social, Cultural, and Political Biases and Blind Spots in AI, CLIP (Computational Linguistics and Information Processing), University of Maryland, College Park, April 6, 2022.

Social, Cultural, and Political Biases and Blind Spots in AI, RAISE (Responsibility in AI Systems & Experiences), University of Washington, Seattle, March 4, 2022.

Hope Speech and Help Speech: Surfacing Positivity Amidst Hate, Masterclass at Spectrum Labs, November 4, 2021.

NLP for US and South Asian Politics: Difference Challenges, Different Methods, Panelist at the Topical Seminar on Computational Social Science, Carnegie Mellon University, September 17, 2021.

Novel Frameworks for Quantifying Political Polarization and Mitigating Hate Speech, CMU AI Seminar, Carnegie Mellon University, September 28, 2021.

Novel Frameworks for Quantifying Political Polarization and Mitigating Hate Speech, Berkeley NLP Seminar, University of California Berkeley, August 20, 2021.

Political Polarization and International Conflicts through the Lens of Natural Language Processing, HAMLET (Human, Animal, and Machine Learning: Experiment and Theory), University of Wisconsin Madison, April 16, 2021.

Novel Framework to Mitigate Hate Speech, CAH (Collaboratory Against Hate) lightning talks, Carnegie Mellon University and University of Pittsburgh, April 9, 2021.

Novel Frameworks for Quantifying Political Polarization and Mitigating Hate Speech, IDeaS (Center for Informed Democracy and Social-cybersecurity), Carnegie Mellon University, April 9, 2021.

Political Polarization and International Conflicts through the Lens of NLP, AI for Social Impact Seminar Series, Penn State University, March 5, 2021.

Political Polarization and International Conflicts through the Lens of NLP, Stanford NLP Seminar, February 25, 2021.

Social, Cultural, and Political Biases through the Lens of NLP, CMU Portugal Data Science Seminar, February 23, 2021.

Understanding Conflicts: Internal and International: Through the Lens of Natural Language Processing, IEEE CIS Kolkata Chapter, December 17, 2020.

Hope Speech and Help Speech: Surfacing Positivity Amidst Hate, LTI Colloquium Talk, CMU, September 4, 2020.

WaterWorks Podcast Ep 1: Q&A with NLP 'Hope Speech' Researcher Ashiqur KhudaBukhsh, John K. Waters, Pure AI, August 31, 2020.

Hope Speech and Help Speech: Surfacing Positivity Amidst Hate, IBM Research Lab, Delhi, July 28, 2020.

Hope Speech and Help Speech: Surfacing Positivity Amidst Hate, Indraprastha Institute of Information Technology, Delhi, July 23, 2020.

Hope Speech and Help Speech: Surfacing Positivity Amidst Hate, Georgia Tech University, CLAWS research group, Atlanta, July 22, 2020.

On NLP Methods Robust to Noisy Indian Social Media Data, AI for Social Good Workshop, CRCS, Harvard University, July 21, 2020.

Hope Speech and Help Speech: Surfacing Positivity Amidst Hate, Microsoft Research, India, June 25, 2020.

Hope Speech and Help Speech: Surfacing Positivity Amidst Hate, Colloquium Talk, University of California, Riverside, May 29, 2020.

Hope Speech and Help Speech: Surfacing Positivity Amidst Hate, AI and Social Good Symposium, CMU, April 23, 2020.

Hope Speech and Help Speech: Surfacing Positivity Amidst Hate, CMU AI Seminar, February 4, 2020.

Voice for Voiceless: Active Sampling to Detect Comments Supporting the Rohingyas, Indian Institute of Technology, Kanpur, January 10, 2020.

Voice for Voiceless: Active Sampling to Detect Comments Supporting the Rohingyas, TCS Research, Kolkata, January 3, 2020.

Voice for Voiceless: Active Sampling to Detect Comments Supporting the Rohingyas, Indian Institute of Technology (IIT) Kharagpur, December 5, 2019.

SOFTWARE RELEASED PUBLICLY

SATenstein: an automatically configurable local search SAT solver

SATenstein-2015 (with Paul Cernek, H. Hoos, Kevin Leyton-Brown; 2015): Updated to include the DCCA and Sparrow SAT solvers, to compile properly on 64-bit machines, and to fix various bugs.

SATenstein-2009 (with Lin Xu, H. Hoos, Kevin Leyton-Brown; 2009-10): A generalized, highly parameterized solver framework that can be configured to instantiate over 10^{23} novel algorithms.

$L_{polyglot}$*: a minimally supervised language identifier*

L$_{\textbf{polyglot}}$ (with Shriphani Palakodety; 2020): Updated to a supervised solution trained on 360 annotated labels and millions of weak labels extending support to ten Romanized Indic languages along with 300+ additional languages.

L$_{\textbf{polyglot}}$ (with Shriphani Palakodety, Jaime G. Carbonell; 2020): A minimally supervised language identifier for both document level and token level language detection that is particularly well-suited to noisy, short social media documents generated in linguistically diverse South Asia.

JOURNALISM

Wrote a Sunday feature in Aajkaal, a highly circulated Bengali daily newspaper (294,000 copies of reported circulation per day in 2011), about the challenges and rewards in an international student's life seen through the lens of Bengali students at the School of Computer Science, Carnegie Mellon University.

Author of *Window Seat*, a regular column in Bhinnacharcha, a Bengali periodical. August 2016 – April 2017.

Interviewed several acclaimed film personalities including National Award (India) winning film director Anindya Chatterjee.

MUSIC COMPOSITION

Directed music for an Off-Broadway play, "Half-hearted", produced by M.A.D. Playhouse, staged at Cherry Lane Theater, 2013.

Collaborated with Omkar Deshpande and Manmauji Films on YouTube single Ishq Hai (25K+ views).

IMDB: https://www.imdb.com/name/nm6713099/ YouTube: https://www.youtube.com/user/khudabukhsh

CHESS

Peak chess rating of 2,159 (99.1 percentile) at Chess.com.