

Tunazzina Islam

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🌐 <https://tunazislam.github.io/>
Residential Status: Permanent Resident of USA

RESEARCH INTEREST

My research interests broadly lie in **AI for Societal Impact**, at the intersection of **Natural Language Processing (NLP)** and **Computational Social Science (CSS)**.

EDUCATION

- 🎓 **Purdue University** **West Lafayette, IN**
Ph.D. in Computer Science (CS) *Jan 2019 - Feb 2025*
 - Research Area: NLP, CSS.
 - Ph.D. Thesis: Understanding and Analyzing Microtargeting Pattern on Social Media.
 - Advisor: Dan Goldwasser
 - Committee Members: Ming Yin, Ruqi Zhang, Christopher W. Clifton
- 🎓 **Old Dominion University (ODU)** **Norfolk, VA**
M.S. in Computer Science (CS), CGPA: 3.97/4.00 *Aug 2018*
 - Research Area: Bioinformatics & Computational Biology, HPC.
 - Advisor: Desh Ranjan, Mohammad Zubair
- 🎓 **Bangladesh University of Engineering and Technology (BUET)** **Dhaka, Bangladesh**
B.Sc. in Computer Science and Engineering (CSE) *Feb 2013*
 - Thesis: Software Development of Practical Problems.
 - Advisor: Md. Mostofa Akbar

WORK EXPERIENCES

- Purdue University, West Lafayette, IN** *Mar 2025 - Present*
 - Visiting Assistant Professor, Computer Science
- Purdue University, West Lafayette, IN** *Jan 2019 - Mar 2025*
 - Research Assistant
 - Teaching Assistant
- Old Dominion University, Norfolk, VA** *Aug 2015 - Aug 2018*
 - Research Assistant
 - Teaching Assistant
- Dohatec New Media, Dhaka, Bangladesh** *Mar 2013 - May 2015*
 - Software Developer

GRANTS

- Graduate School Summer Research Grant (\$17,568), Purdue University.** *2024, 2022, 2021*
- Ongoing Proposals:**
 - NSF TTP (Co-Investigator) [*Under Submission*]
 - NSF HNDS (Co-Investigator) [*In Preparation*]

AWARDS AND ACHIEVEMENTS

- Best poster award in AAAI/SIGAI Doctoral Consortium, AAAI.** *2025*

AAAI/SIGAI Doctoral Consortium, AAAI.	2025
Diversity and Inclusion Award (D&I Award), NAACL.	2025
Graduate Women in Science Program (WISP) Award, CoS, Purdue University.	2025
ADSA Travel Award, Academic Data Science Alliance Annual Meeting, UMich.	2024
MSLD Travel Award, Midwest Speech and Language Days.	2025, 2024
Graduate Teaching Award, CS, Purdue University.	Spring 2023
ACM-W Scholarship for attendance at ICWSM 2022.	2022
ICWSM Travel Grant.	2021, 2022
IJCAI Travel Grant.	2019
SIGKDD Student Travel Award.	2019
CSGSA Travel Grant, CS, Purdue University.	2019, 2023
CRA-W Grad Cohort Travel Award.	2016, 2019, 2020
Research Assistantship, Purdue University, West Lafayette, IN.	2021 - 2023
Teaching Assistantship, Purdue University, West Lafayette, IN.	2019 - 2025
Fully paid International Summer School on HPC, Kobe, Japan.	2019
NSF Travel Award for attendance at SCEC Workshop, Delhi, India.	2018
Computer Science Outstanding Graduate Researcher - Fall 2017, ODU.	2018
Travel Award UM Explore Graduate Studies in CSE Workshop, Ann Arbor, MI.	2018
2 nd prize in Tapia Student Poster Competition, Atlanta, GA.	2017
ACM Richard Tapia Scholarship.	2016, 2017
Capital Region Women in Computing (CAPWIC) Scholarship, Washington DC.	2017
Modeling and Simulation Fellowship by Old Dominion University.	2016 - 2018
GHC Scholar, Grace Hopper Celebration of Women in Computing, Houston, TX.	2016
Graduate Assistantship, Old Dominion University, Norfolk, VA.	2015 - 2018
Dean's List Award, BUET.	2012 - 2013
University Merit Scholarship, BUET.	2012-2013
Education Board Scholarship in Higher Secondary by Bangladesh Government.	2007 - 2013
Education Board Scholarship in Secondary School by Bangladesh Government.	2005 - 2007
Award from Daily Prothom Alo Newspaper for obtaining GPA 5.0 in S.S.C.	2005
Junior Scholarship in Grade 8 by Bangladesh Government.	2002 - 2005
Primary Scholarship in Grade 5 by Bangladesh Government.	1999 - 2002

PUBLICATIONS

25 peer-reviewed publications, among them 20 first author papers. * indicates **equal contribution**. ⊕ indicates **Papers with students I mentored**. My work has been published in leading venues, including top Natural Language Processing conferences (NAACL, EMNLP, ACL), Computational Social Science conferences (AAAI ICWSM, ACM WebSci), AI Ethics (AAAI/ACM AIES), Artificial Intelligence (AAAI), and Big Data (IEEE Big Data).

Doctoral Consortium.....

1. [AAAI 2025] *Understanding Microtargeting Pattern on Social Media*.
Tunazzina Islam. [39th AAAI Conference on Artificial Intelligence \(30th AAAI-25 Doctoral Consortium\)](#). [Proceedings] [Poster] [Award] [Announcement] [[Featured in Alhub](#)]

🏆 **Won the best poster award in 2025 AAAI/SIGAI Doctoral Consortium.**

Peer Reviewed Conference Papers.....

15. [EMNLP 2025] *Post-hoc Study of Climate Microtargeting on Social Media Ads with LLMs: Thematic Insights and Fairness Evaluation.*
Tunazzina Islam, Dan Goldwasser. Findings of the 2025 Conference on Empirical Methods in Natural Language Processing. [Acceptance rate: 17.35%] [Paper link][arXiv] [Slide]
14. [NAACL 2025] *Uncovering Latent Arguments in Social Media Messaging by Employing LLMs-in-the-Loop Strategy.*
Tunazzina Islam, Dan Goldwasser. Findings of the 2025 Annual Conference of the Nations of the Americas Chapter of the Association for Computational Linguistics. [Acceptance rate: 14.7%] [Paper link] [arXiv] [Slide]
13. [ICWSM 2025] *Discovering Latent Themes in Social Media Messaging: A Machine-in-the-Loop Approach Integrating LLMs.*
Tunazzina Islam, Dan Goldwasser. 19th International AAAI Conference on Web and Social Media. [Acceptance rate: 20%] [Paper link] [arXiv] [Slide]
12. [WebSci 2025] *Can LLMs Assist Annotators in Identifying Morality Frames? - Case Study on Vaccination Debate on Social Media.*
Tunazzina Islam, Dan Goldwasser. In Proceedings of the 17th ACM Web Science Conference 2025. [Oral Presentation](#). [Acceptance rate: 39.6%] [Paper link] [arXiv] [Slide]
11. [AIES 2023] *Analysis of Climate Campaigns on Social Media using Bayesian Model Averaging.*
Tunazzina Islam, Ruqi Zhang, Dan Goldwasser. 6th AAAI/ACM Conference on AI, Ethics, and Society 2023. [Oral Presentation, top 11%](#). [Acceptance rate: 28.9%] [Paper link] [arXiv] [Slide]
10. [ICWSM 2023] *Weakly Supervised Learning for Analyzing Political Campaigns on Facebook.*
Tunazzina Islam, Shamik Roy, Dan Goldwasser. 17th International AAAI Conference on Web and Social Media. [Acceptance rate: 20%] [Paper link] [arXiv] [Slide]
9. [ACL 2023] *Interactive Concept Learning for Uncovering Latent Themes in Large Text Collections.*
Maria Leonor Pacheco, **Tunazzina Islam**, Lyle Ungar, Ming Yin, Dan Goldwasser. Findings of the Association for Computational Linguistics: ACL'23. [Acceptance rate: 18.4%] [Paper link] [arXiv]
8. [IEEE Big Data 2022] *Understanding COVID-19 Vaccine Campaign on Facebook using Minimal Supervision.*
Tunazzina Islam, Dan Goldwasser. 2022 IEEE International Conference on Big Data. [Acceptance rate: 19.2%]. Also accepted at Workshop on NLP for Positive Impact 2022 (NLP4PI @EMNLP 2022). [Paper link] [arXiv] [Slide] [Poster @NLP4PI 2022]
7. [NAACL 2022] *A Holistic Framework for Analyzing the COVID-19 Vaccine Debate.*
Maria Leonor Pacheco*, **Tunazzina Islam***, Monal Mahajan, Andrey Shor, Ming Yin, Lyle Ungar, Dan Goldwasser. Proceedings of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies. [Acceptance rate: 21%] [Paper link] [arXiv] [Slide]
6. [ICWSM 2022] *Twitter User Representation Using Weakly Supervised Graph Embedding.*
Tunazzina Islam, Dan Goldwasser. 16th International AAAI Conference on Web and Social Media. [Acceptance rate: 20%] [Paper link] [arXiv] [Slide] [[Featured as ACM-W Scholar](#)]

5. **[ICWSM 2021]** *Analysis of Twitter Users' Lifestyle Choices using Joint Embedding Model.*
Tunazzina Islam, Dan Goldwasser. 15th International AAAI Conference on Web and Social Media.
 [Acceptance rate: 20%] [Paper link] [arXiv] [Slide] [Research Highlight]
4. **[ICSC 2021]** *Do You Do Yoga? Understanding Twitter Users' Types and Motivations using Social and Textual Information.*
Tunazzina Islam, Dan Goldwasser. 2021 IEEE 15th International Conference on Semantic Computing. [Acceptance rate: 30%] [Paper link] [arXiv] [Slide]
3. **[BIBE 2019]** *Nanopore Guided Assembly of Segmental Duplications near Telomeres.*
 Eleni Adam, **Tunazzina Islam**, Desh Ranjan, Harold Riethman. 19th IEEE International Conference on Bioinformatics and Bioengineering. [Paper link]
2. **[ISBRA 2018]** *REXTAL: Regional Extension of Assemblies Using Linked-Reads.*
Tunazzina Islam, Desh Ranjan, Eleanor Young, Ming Xiao, Mohammad Zubair, Harold Riethman. 14th International Symposium on Bioinformatics Research and Applications.
 Also accepted as a poster at Grace Hopper Celebration of Women in Computing (GHC), 2018.
 [Paper link] [PDF] [Poster @GHC 2018] [Poster PDF @GHC 2018]
1. **[ICPP 2017]** *A Machine Learning Approach for Efficient Parallel Simulation of Beam Dynamics on GPUs.*
 Kamesh Arumugam, Desh Ranjan, Mohammad Zubair, Balsa Terzic, Alexander Godunov, **Tunazzina Islam**. 46th International Conference on Parallel Processing. [Paper link]

Peer Reviewed Workshop Papers and Posters.....

7. **[DaSH@EMNLP 2022]** *Interactively Uncovering Latent Arguments in Social Media Platforms: A Case Study on the Covid-19 Vaccine Debate.*
 Maria Leonor Pacheco, **Tunazzina Islam**, Lyle Ungar, Ming Yin, Dan Goldwasser. Fourth Workshop on Data Science with Human in the Loop: Language Advances. [Paper link]
6. **[KDDDBHI@IEEE Big Data 2020]** *Does Yoga Make You Happy? Analyzing Twitter User Happiness using Textual and Temporal Information.*
Tunazzina Islam, Dan Goldwasser. Big Data Analytic Technology for Bioinformatics and Health Informatics at 2020 IEEE International Conference on Big Data. [Paper link] [arXiv] [Slide]
5. **[SocialNLP@IJCAI 2019]** *Ex-Twit: Explainable Twitter Mining on Health Data.*
Tunazzina Islam. 7th International Workshop on Natural Language Processing for Social Media in conjunction with International Joint Conferences on Artificial Intelligence. [arXiv] [PDF] [Slide]
4. **[WISDOM@KDD 2019]** *Yoga-Veganism: Correlation Mining of Twitter Health Data.*
Tunazzina Islam. 8th International Workshop on Issues of Sentiment Discovery and Opinion Mining co-located with ACM Knowledge Discovery and Data Mining 2019. [arXiv] [PDF] [Slide]
3. **[CSBW@ACM-BCB 2017]** *A Method for Characterization of β -strand Twist from a 3-Dimensional Image of a Protein.*
Tunazzina Islam, Michael Poteat, Jing He. Computational Structural Bioinformatics Workshop in conjunction with 8th ACM International Conference on Bioinformatics, Computational Biology, and Health Informatics. [Paper link] [PDF]
2. **[TAPIA 2017]** *Protein Secondary Structure Detection using Pattern Recognition and Geometric Modeling.*
Tunazzina Islam, Jing He. ACM Richard TAPIA Celebration of Diversity in Computing 2017, Atlanta, GA, USA. [Poster PDF @TAPIA 2017] [Poster @TAPIA 2017]
🏆 Won 2nd Prize in Tapia Student Poster Competition 2017.

1. [IPAC 2017] *Simulations of Coherent Synchrotron Radiation on Parallel Hybrid GPU/CPU Platform*. Balsa Terzić, Kamesh Arumugam, Dallon Duffin, Alexander Godunov, **Tunazzina Islam**, Desh Ranjan, Sukesh Sangam, Mohammad Zubair. 8th International Particle Accelerator Conference. [Poster Proceedings]

Peer Reviewed Journal Papers.....

2. [TCBB 2019] *Analysis of Subtelomeric REXTAL Assemblies Using QUAST*. **Tunazzina Islam**, Desh Ranjan, Eleanor Young, Ming Xiao, Mohammad Zubair, Harold Riethman. IEEE/ACM Transactions on Computational Biology and Bioinformatics. [Paper link] [PDF]
1. [JCB 2018] *Quantification of Twist from the Central Lines of β -strands*. **Tunazzina Islam**, Michael Poteat, Jing He. Journal of Computational Biology (JCB), January 2018. [Paper link] [PDF]

Preprints.....

5. *Paid Voices vs. Public Feeds: Interpretable Cross-Platform Theme Modeling of Climate Discourse[⊕]*. Samantha Sudhoff*, Pranav Perumal, Zhaoqing Wu, **Tunazzina Islam***. (Under Review)
4. *Who Gets Which Message? Auditing Demographic Bias in LLM-Generated Targeted Text*. **Tunazzina Islam**. (Under Review)
3. *Reasoning-Based Refinement of Unsupervised Text Clusters with LLMs*. **Tunazzina Islam**. (Under Review)
2. *Cross-Platform Analysis of Vegan Discourse with LLM-Enhanced Clustering*. **Tunazzina Islam**. (Under Review)
1. *Iterative Topic Taxonomy Induction with LLMs: A Case Study of Electoral Advertising[⊕]*. Alexander Brady*, **Tunazzina Islam***. (Under Review) [arXiv]

ACADEMIC SERVICES

Tutorial Co-Chair

International AAAI Conference on Web and Social Media (ICWSM) 2026, 2025

Organizer & Chair

Birds of a Feather (BoF) session, NAACL 2025

Area Chair (AC)

Area Chair: ACL Rolling Review (ARR) 2025

Senior Program Committee: International AAAI Conference on Web and Social Media (ICWSM) 2026

Associate Chair: Computer-Supported Cooperative Work and Social Computing (CSCW) 2024 - 2025

Conference Reviewer

ACL Rolling Review (ARR)	2021 - 2025
International AAAI Conference on Web and Social Media (ICWSM)	2022 - 2025
AAAI Conference on Artificial Intelligence	2023 - 2026
AAAI Special Track on AI for Social Impact (AISI)	2026
North American Chapter of the Association for Computational Linguistics (NAACL)	2024 - 2025
Empirical Methods in Natural Language Processing (EMNLP)	2021 - 2025
Conference on Language Modeling (COLM)	2025
ACM TheWebConf (WWW)	2025
ACM Conference on Human Factors in Computing Systems (CHI)	2025
Computer-Supported Cooperative Work and Social Computing (CSCW)	2025
Association for Computational Linguistics (ACL)	2021 - 2024
International Conference on Computational Linguistics (COLING)	2020 - 2025
LREC-COLING	2024
International Conference on Social Informatics (SocInfo)	2022
HEALTHINFO	2021
Workshop Reviewer	
ACL Student Research Workshop (SRW)	2023
Student Research Workshop, NAACL	2022
Institutional Service	
Vice President, Computer Science Graduate Student Association, Purdue University	2022 - 2023
Conference Service	
Ambassador for ICWSM	2024
Conference Volunteer	
EMNLP student volunteer (Virtual)	2022
ICWSM student volunteer	2022
KDD student volunteer	2019
Journal Reviewer	
Complementary Therapies in Clinical Practice (CTCP)	2021
Research Mentor	
Computer Science Graduate Student Association, Purdue University	Fall 2024
Lumiere Education	May - Aug, 2021

INVITED TALKS

Tutorial

[T6] Analyzing Microtargeting on Social Media

Academic Data Science Alliance Annual Meeting, University of Michigan, Ann Arbor.

Oct 2024

Talks

[T5] Understanding Microtargeting Patterns in the Era of LLMs IEEE Workshop on Distributed, Secure, and Trustworthy Intelligence with LLMs (DISTILL)	<i>Nov 2025</i>
[T4] Understanding and Analyzing Microtargeting Patterns on Social Media School of Computing Technologies, RMIT University, Melbourne Australia. Birds of a Feather (BoF) Session, NAACL, Albuquerque, NM. Department of Computer Science, Georgia State University, Atlanta, GA. Department of Computer Science, Florida State University, Tallahassee, FL.	<i>Jun 2025</i> <i>May 2025</i> <i>Mar 2025</i> <i>Feb 2025</i>
[T3] Can LLMs Assist Annotators in Identifying Morality Frames? - Case Study on Vaccination Debate on Social Media Academic Data Science Alliance Annual Meeting, University of Michigan, Ann Arbor.	<i>Oct 2024</i>
[T2] Uncovering Latent Themes of Messaging on Social Media by Integrating LLMs: A Case Study on Climate Campaigns Academic Data Science Alliance Annual Meeting, University of Michigan, Ann Arbor.	<i>Oct 2024</i>
[T1] Uncovering Latent Arguments in Social Media Messaging by Employing LLMs-in-the-Loop Strategy Midwest Speech and Language Days (MSLD), University of Michigan, Ann Arbor.	<i>Apr 2024</i>

TEACHING EXPERIENCE

Visiting Assistant Professor, Purdue University, West Lafayette, IN

- CS 390: AI Forge; Semester: Spring 2026
- CS 490/590: Applied GenAI Research Project; Semester: Spring 2026
- CS 390: AI Forge I, II, III; Semester: Fall 2025
 - AI Forge I: Basics of Large Language Models
 - AI Forge II: In-context learning and RAG
 - AI Forge III: Multi-modal generative AI models
- CS 490, CS 590: Applied GenAI Research Project; Semester: Fall 2025

Guest Lecture

- Purdue University, Natural Language Processing, "Microtargeting on Social Media", Spring 2024

Teaching Assistant, Purdue University, West Lafayette, IN

- CS 999: AI Forge (Course Development); Semester: Spring 2025
- CS 577: Natural Language Processing; Semester: Spring 2024, Spring 2023, Spring 2022
- CS 578: Statistical Machine Learning; Semester: Fall 2023, Fall 2021
- CS 373: Data Mining And Machine Learning; Semester: Fall 2022, Fall 2024
- CS 182: Foundations of Computer Science; Semester: Summer 2020, Spring 2020
- CS 381: Introduction to the Analysis of Algorithms; Semester: Fall 2019
- CS 251: Data Structures and Algorithms; Semester: Spring 2021, Fall 2020, Summer 2019

Teaching Assistant, Old Dominion University, Norfolk, VA

- CS 724: High-Performance Computing and Big Data; Semester: Spring 2018, Spring 2017
- CS 381: Introduction to Discrete Structures; Semester: Spring 2016
- CS 270: Introduction to Computer Architecture; Semester: Fall 2016, Fall 2015

MENTORSHIP

Samantha Sudhoff, Masters student, CS, Purdue University	<i>Fall 2025</i>
Ryan Rittner, Masters student, CS, Purdue University	<i>Fall 2025</i>
Pranav Perumal, Undergraduate student, CS, Purdue University	<i>Fall 2025</i>
Saahil Mathur, Undergraduate student, CS, Purdue University	<i>Fall 2025</i>
Atharva Thakur, Undergraduate student, CS, Purdue University	<i>Summer, Fall 2025</i>
Alexander Brady, Masters student, CS, ETH Zurich	<i>2024-2025</i>

Xinzhi Wang, Ph.D student, CS, Purdue University	<i>Spring, Summer 2025</i>
Aayush Motiani, Undergraduate student, CS, UC San Diego	<i>Summer 2021</i>
Eleni Adam, Ph.D. student, CS, ODU	<i>Fall 2018</i>
Alice T'Poteat, Staff Software Engineer, Volley	<i>2017-2018</i>

SELECTED MEDIA COVERAGE

Featured in AIhub: AAAI/SIGAI Doctoral Consortium participants: Tunazzina Islam	2025
ACM Women in Computing Scholars: ACM-W Scholars 2022: Tunazzina Islam	2022
ODU CS Bi-annual Newsletter: Outstanding Graduate Researcher: Tunazzina Islam	2018
ODU CS Featured Student: Featured Student: Tunazzina Islam	2016

REFERENCES

Will provide upon request.