

Jaydeb Sarker

Ph.D. Candidate in Computer Science, Wayne State University

Email: jaydebsarker@wayne.edu [Google Scholar](#)

Website: <https://jaydebsarker.github.io/>

RESEARCH INTERESTS

Software Engineering (SE), Natural Language Processing, Human Aspect of SE, Explainability of AI

EDUCATION

Wayne State University

Ph.D. Candidate in Computer Science, GPA: 3.92/4.0

Detroit, MI

August 2019 – April 2024(Expected)

Wayne State University

Masters in Computer Science, GPA: 3.90/4.0

Detroit, MI

August 2019 – August 2022

Rajshahi University of Engineering and Technology

BSc. in Computer Science and Engineering, CGPA: 3.71/4.0 (Position: 7th/56)

Rajshahi, Bangladesh

January 2012 – October 2016

EXPERIENCES

Graduate Teaching Assistant

Wayne State University

August 2019 – August 2022, May 2023 - Present

Detroit, MI

Thomas C Rumble Graduate Fellow

Wayne State University

August 2022 – May 2023

Detroit, MI

Lecturer

University of Information Technology and Sciences

January 2017 – July 2019

Dhaka, Bangladesh

Research Internship

Otto-Von-Guericke-Universität

Sept 2017- Nov 2017

Magdeburg, Germany

PUBLICATIONS

Journal Paper

- J1. **Jaydeb, Sarker**, Asif Kamal Turzo, Ming Dong, and Amiangshu Bosu. Automated identification of toxic code reviews using toxicr. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 32(5), July 2023

Accepted in Journal First Track of The ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE)-2023, San Francisco, California, United States.

Peer Reviewed Conference Papers

- C1. **Jaydeb, Sarker**, Sayma Sultana, Steven R. Wilson, and Amiangshu Bosu. Toxispanse: An explainable toxicity detection in code review comments. In *Proceedings of the 17th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, Technical Track, New Orleans, Louisiana, United States*, ESEM, 2023
- C2. Asif Kamal Turzo, Fahim Faysal, Ovi Poddar, **Jaydeb, Sarker**, Anindya Iqbal, and Amiangshu Bosu. Towards automated classification of code review feedback to support analytics. In *Proceedings of the 17th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, New Orleans, Louisiana, United States, Technical Track*, ESEM, 2023

- C3. **Jaydeb, Sarker.** ‘who built this crap?’ developing a software engineering domain specific toxicity detector. *Student Research Competition on the International Conference on Automated Software Engineering (ASE)*, Rochester, MI, USA, pages 1–3, 2022.
- C4. **Jaydeb, Sarker.** Identification and mitigation of toxic communications among open source software developers. *Doctoral Symposium on the International Conference on Automated Software Engineering (ASE)*, Rochester, MI, USA, pages 1–5, 2022.
- C5. Sayma Sultana, **Jaydeb, Sarker**, and Amiangshu Bosu. A rubric to identify misogynistic and sexist texts from software developer communications. In *Proceedings of the 15th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM)*, pages 1–6, 2021.
- C6. **Jaydeb, Sarker**, Asif Kamal Turzo, and Amiangshu Bosu. A benchmark study of the contemporary toxicity detectors on software engineering interactions. In *2020 27th Asia-Pacific Software Engineering Conference (APSEC)*, pages 218–227. IEEE, 2020.

HONORS AND AWARDS

- NSF Travel Award for attending ESEM-2023
- SIGSOFT CAPS award for attending ESEM-2023
- NSF Travel Award for attending Midwest PL Summit 2023
- Thomas C. Rumble University Graduate Fellowship for 2022-23 Academic Year, Wayne State University
- Deutscher Akademischer Austauschdienst (DAAD) scholarship, Germany- 2017
- Technical scholarship in RUET for the outstanding results from 2012 to 2016.

REVIEWING/PROFESSIONAL ACTIVITIES

1. Committee Member of ICSE 2024 Artifact Evaluation
2. Reviewer of SANER 2024, Tool Demo Track
3. Junior PC Member at the Mining Software Repositories Conference (MSR) 2023
4. Reviewer of Software Quality Journal: 2022-Present
5. MSR 2021 Shadow Program Committee member
6. Additional Reviewers within the ICSE 2021- Tool Demonstrations-track

TALKS/PRESENTATION

1. Presented poster: “Mitigation of Toxic Communications Among Open Source Software Developers” at Midwest PL Summit 2023, University of Michigan, Ann Arbor, USA.
2. Presentation of “An Automated Tool to Identify Toxic Comments During Software Developers Communication” at Graduated Research Symposium 2023, Wayne State University, Detroit, MI, USA.

TEACHING

Wayne State University, MI, USA

- CSC 4110 - Software Engineering Lab: Winter 2021, Summer 2021, Winter 2022, Summer 2022, Fall 2023
- CSC 4110 - Software Engineering Lecture: Summer 2022
- CSC 4420 - Computer Operating Systems (Theory+Lab) - Summer 2023

- CSC 1100 - Introduction to Problem Solving and Programming Lab: Fall 2019, Winter 2020, Summer 2020, Fall 2020
- CSC 1101- Introduction to Problem Solving and Programming Lecture: Summer 2020

TECHNICAL SKILLS

Programming: Python, Java, C, C++, SQL, MATLAB

NLP and ML: Classification, Deep Neural Models, Transformers, BERT, RoBERTa, XLNet, Token Level Text Classification, Huggingface Transformers, Explainability of Transformers

Statistical Analysis:: Empirical Analysis of Software Engineering, Regression Modeling, Bootstrapping in Regression

Tools: Jupyter Notebook, Scikit Learn, Keras, Tensorflow, Pytorch

Others: Analytical Problem Solving, Algorithms, Agile method in SE, Git, Linux

Certifications: CCNA Routing and Switching

DEVELOPED SOFTWARE/TOOLS FOR SE RESEARCH

ToxiCR | *Python, Tensorflow* [GitHub]

- A supervised learning-based tool to identify toxic code review comments
- A descent toxicity detector for SE domain
- BERT-base model achieved an 89% F1-score and outperformed other SOTA toxicity detectors

ToxiSpanSE | *Python, Tensorflow, PyTorch* [GitHub]

- An Explainable toxicity detector for code review comments
- First token-based toxicity detector for the SE domain
- RoBERTa model achieved 88% F1 score for toxic class tokens

CONFERENCE VOLUNTEER EXPERIENCE

1. 37th IEEE/ACM International Conference on Automated Software Engineering (ASE) 2022, Oakland Center, Michigan.
2. Worked as a Student Volunteer in the 44th ICSE-2022, In person Conference at Pittsburg, PA, USA.
3. Student Volunteer in the 36th IEEE/ACM International Conference on Automated Software Engineering (ASE) 2021, Virtual (Original: Melbourne, Australia).
4. Worked as a Student Volunteer in the 43th ICSE-2021, Virtual Conference (Original: Madrid, Spain).

ANALYTICAL PROBLEM SOLVING

- Solved 150+ problems in Leetcode, UVA and LightOj online judges.
- Participated in programming contest in “RUET CSE-2012”, participated ACM-ICPC preliminary contest in Dhaka Region-2014.

REFERENCE

Dr. Amiangshu Bosu,
Assistant Professor, Department of Computer Science
Wayne State University
5057 Woodward Ave., Detroit, MI 48202
Email: amiangshu.bosu@wayne.edu