Jaydeb Sarker

Ph.D. Candidate in Computer Science, Wayne State University
Email: jaydebsarker@wayne.edu
Linkedin: linkedin.com/in/jaydeb-sarker
Google Scholar
Website: https://jaydebsarker.github.io/

Research Interests

Software Engineering (SE), Human Aspects of SE, Natural Language Processing, Deep Learning

Education

Wayne State University — Detroit, MI
Ph.D. Candidate in Computer Science, GPA: 3.92/4.0 — *August 2019 – April 2024(Expected)*

Wayne State University — Detroit, MI
Masters in Computer Science, GPA: 3.90/4.0 — *August 2019 – August 2022*

Rajshahi University of Engineering and Technology — Rajshahi, Bangladesh
BSc. in Computer Science and Engineering, CGPA: 3.71/4.0 (Position: 7^{th}/56) — *January 2012 – October 2016*

Experiences

Graduate Teaching Assistant — August 2019 – August 2022, May 2023 - Present
Wayne State University — *Detroit, MI*

Thomas C Rumble Graduate Fellow — August 2022 – May 2023
Wayne State University — *Detroit, MI*

Lecturer — January 2017 – July 2019
University of Information Technology and Sciences — *Dhaka, Bangladesh*

Internship on 5G wireless communication — Sept 2017- Nov 2017
Otto-Von-Guericke-Universität — *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*, feb 2023. Accepted

Peer Reviewed Conference Papers

C1. Jaydeb Sarker, Sayma Sultana, Steven 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 (ESEM) 2023, Accepted in Technical Track.*

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 (ESEM) 2023, Accepted in Technical Track.*

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

- 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. Member of the program committee (Junior PC- reviewer) at the 2023 Mining Software Repositories Conference
2. Reviewer of Software Quality Journal 2022
3. Reviewer in MSR 2021 Shadow Program Committee member
4. Additional Reviewers within the ICSE 2021- Tool Demonstrations-track

Teaching

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