

Bishwamittra Ghosh

Employment

Since 02.24 **Postdoctoral Researcher**, *Max Planck Institute for Software Systems*, Germany.
Advisor: Dr. Krishna P. Gummadi

Education

- 01.18 – 09.23 **PhD in Computer Science**, *National University of Singapore (NUS)*, Singapore.
Advisor: Dr. Kuldeep S. Meel
Thesis: Interpretability and Fairness in Machine Learning: A Formal Methods Approach
- 02.13 – 09.17 **BSc in Computer Science and Engineering**, *Bangladesh University of Engineering and Technology (BUET)*, Bangladesh, CGPA: 3.83 out of 4 (with Honours).
Advisor: Dr. Mohammed Eunos Ali
Thesis: The Flexible Socio Spatial Group Queries

Research Interests

Trustworthy machine learning; Fairness and explainability of machine learning; Large Language Models; Formal methods in Machine Learning.

Publications

Conference Papers

- CAI-24 Split Learning of Multi-Modal Medical Image Classification
[Bishwamittra Ghosh](#), Yuan Wang, Huazhu Fu, Wei Qingsong, Yong Liu, Rick Goh
- FAccT-23 “How Biased are Your Features?”: Computing Fairness Influence Functions with Global Sensitivity Analysis
[Bishwamittra Ghosh](#), Debabrota Basu, Kuldeep S. Meel
- VLDB-23 Neighborhood-based Hypergraph Core Decomposition
Naheed Anjum Arafat, Arijit Khan, Arpit Kumar Rai, [Bishwamittra Ghosh](#)
- AAAI-22 Algorithmic Fairness Verification with Graphical Models
[Bishwamittra Ghosh](#), Debabrota Basu, Kuldeep S. Meel
- AAAI-21 Justicia: A Stochastic SAT Approach to Formally Verify Fairness
[Bishwamittra Ghosh](#), Debabrota Basu, Kuldeep S. Meel
- AAAI-20 A MaxSAT-based Framework for Group Testing
Lorenzo Ciampiconi, [Bishwamittra Ghosh](#), Jonathan Scarlett, Kuldeep S. Meel
- ECAI-20 Classification Rules in Relaxed Logical Form
[Bishwamittra Ghosh](#), Dmitry Malioutov, Kuldeep S. Meel
- AIES-19 IMLI: An Incremental Framework for MaxSAT-Based Learning of Interpretable Classification Rules
[Bishwamittra Ghosh](#), Kuldeep S. Meel
- VLDB-18 The Flexible Socio Spatial Group Queries
[Bishwamittra Ghosh](#), Mohammed Eunos Ali, Farhana M. Choudhury, Sajid Hasan Apon, Timos Sellis, Jianxin Li

Journal Papers

- JAIR-22 Efficient Learning of Interpretable Classification Rules
[Bishwamittra Ghosh](#), Dmitry Malioutov, Kuldeep S. Meel
- TSAS-21 Social-Spatial Group Queries with Keywords
Sajid Hasan Apon, Mohammed Eunos Ali, [Bishwamittra Ghosh](#), Timos Sellis

Professional Experiences

Tutorials

- IJCAI-23 Auditing Bias of Machine Learning Algorithms: Tools and Overview

Talks

- Academic Microsoft Research (24), University of Michigan, Dearborn (23), MPI-SWS (22), INRIA (22)
Conferences FAccT (23), AAI (22, 21, 20), ECAI (20), CP (19), VLDB (19), IJCAI (19), AIES (19)

Academic Reviewer

NeurIPS, ICML, AAI, TNNLS, TMI, AIES, CAV, TKDE

Research Visit

- 03.23 – 05.23 Max Planck Institute For Software Systems, Saarbrücken, Germany
11.21 – 02.22 INRIA, Lille-Nord, France
06.21 – 08.21 Goldman Sachs, Singapore
03.20 – 06.20 Max Planck Institute For Software Systems, Kaiserslautern, Germany

Graduate Assistant (NUS)

- 2018 – 2021 CS2030 Programming Methodology II
2020 CS3243: Introduction to Artificial Intelligence

Past Employment

- 06.23 – 02.24 **Scientist**, *Institute of High Performance Computing (IHPC), A*STAR*, Singapore.
10.17 – 01.18 **Lecturer**, *Department of CSE, United International University (UIU)*, Bangladesh.

Awards

- 2021 Mobillex Scholarship, Université de Lille, France
2018 – 2023 NUS Research Scholarship, Singapore
2013 – 2017 University Deans List, BUET, Bangladesh
2011, 2012 National Math Olympiad winner, Bangladesh
2012 National Chemistry Olympiad winner, Bangladesh

References

- **Kuldeep S. Meel**
Associate Professor
Department of Computer Science
University of Toronto, Canada
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- **Krishna P. Gummadi**
Faculty (Scientific Director)
Head, Networked Systems Research Group
MPI-SWS, Germany
Email: gummadi@mpi-sws.org
- **Arijit Khan**
Associate Professor
Department of Computer Science
Aalborg University, Denmark
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- **Debabrota Basu**
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