

# Bishwamittra Ghosh

## Employment

- Since 02.24 **Postdoctoral Researcher**, *Max Planck Institute for Software Systems, Saarbrücken, Germany.*  
06.23–02.24 **Scientist**, *Institute of High Performance Computing (IHPC), A\*STAR, Singapore.*

## 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 Eunus Ali  
Thesis: The Flexible Socio Spatial Group Queries
- 2012 **Higher Secondary Certificate**, *Satkhira Government College, Satkhira, Bangladesh.*  
2010 **Secondary School Certificate**, *Satkhira Government High School, Satkhira, Bangladesh.*

## Research Interests

Trustworthy machine learning; Fairness and explainability of machine learning;

## Publications

### Conference Papers

- 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 Arifat, 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 Eunus 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

- 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

### Lecturer

- 10.17–01.18 Department of CSE, United International University (UIU), Bangladesh

---

## Awards

- 2021 Mobilix 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  
Email: meel+recos@comp.nus.edu
- **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  
Email: arijitk@cs.aau.dk
- **Debabrota Basu**  
Faculty (equivalent of Assoc. Prof.)  
Scool Team  
Inria at Université de Lille and CNRS, France  
Email: debabrota.basu@inria.fr