

# Bishwamittra Ghosh

## Employment

Since 06.23 **Scientist**, *Institute of High Performance Computing (IHPC), A\*STAR*, Singapore.

## Education

- 01.18–08.23 **Ph.D. in Computer Science**, *National University of Singapore (NUS)*, Singapore.  
(Expected) 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

Fairness and explainability in 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 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 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 Eunus Ali, [Bishwamittra Ghosh](#), Timos Sellis

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## Professional Experiences

### Tutorials

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

### Conference Talks

FAccT-23, AAAI-22, AAAI-21, AAAI-20, ECAI-20, CP-19, VLDB-19, IJCAI-19, AIES-19

### Academic Reviewer

NeurIPS (23, 22, 21), ICML (23), AAAI (23, 22), AIES (22), CAV (23), TKDE (20)

### 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

### Lecturer

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

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## Awards

2018–2023 NUS Research Scholarship, Singapore  
2021 Moblilex Scholarship, University of Lille, France  
2013–2017 University Deans List Award, BUET

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## References

- **Kuldeep S. Meel**  
Associate Professor  
Department of Computer Science  
University of Toronto, Canada  
Email: meel+recos@cs.toronto.edu
- **Debabrota Basu**  
Faculty (equivalent of Assoc. Prof.)  
Inria at Université de Lille and CNRS, France  
Email: debabrota.basu@inria.fr
- **Arijit Khan**  
Associate Professor  
Department of Computer Science  
Aalborg University, Denmark  
Email: arijitk@cs.aau.dk