

# 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*, Singapore.

(Expected) Thesis advisor: Dr. Kuldeep S. Meel

02.13–09.17 **BSc. in Computer Science and Engineering**, *Bangladesh University of Engineering and Technology*, Bangladesh, CGPA: 3.83 out of 4 (with Honours).

Thesis advisor: Dr. Mohammed Eunus Ali

2012 **Higher Secondary Certificate**, *Satkhira Government College*, Satkhira, Bangladesh, GPA: 5 out of 5.

2010 **Secondary School Certificate**, *Satkhira Government High School*, Satkhira, Bangladesh, GPA: 5 out of 5.

## Research Interests

Fairness, interpretability, and explainability in machine learning

Formal verification 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 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

### Conference Talks

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

### Academic Reviewer

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

### Research Intern

- 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

- 2018–2021 School of Computing, National University of Singapore

### Lecturer

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

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## Awards

- 01.18–05.23 NUS Research Scholarship, Singapore  
11.21–02.22 Moblilex Scholarship, University of Lille, France

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## Technical Skills

- Advanced Python, Solvers (SAT, MaxSAT, SSAT, SMT, ILP),  $\text{\LaTeX}$   
Intermediate TensorFlow, C/C++, Java

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## References

- Kuldeep S. Meel  
Assistant Professor, School of Computing, National University of Singapore, Singapore  
Email: [meel+recos@comp.nus.edu.sg](mailto:meel+recos@comp.nus.edu.sg)
- Debabrota Basu  
Faculty, School, INRIA, Lille-Nord, France  
Email: [debabrota.basu@inria.fr](mailto:debabrota.basu@inria.fr)

Last update: June 14, 2023