

# Bishwamittra Ghosh

## Personal Details

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**Contact Address:** 10B Braddell Hill, #13 – 06, Singapore 579721, Singapore

**Email:** bghosh@u.nus.edu

**Phone:** +6585990160

**Date of Birth:** 28 November 1995

**Website:** <https://bishwamittra.github.io>

## Research Interest

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My research interest is in deploying machine learning in high-stake decision-making. I apply formal methods to verify and improve safety-critical properties such as fairness, interpretability, and explainability in machine learning.

## Education

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**National University of Singapore, Singapore**

2018 - Present

Ph.D. candidate, School of Computing

Adviser: Dr. Kuldeep S. Meel

**Bangladesh University of Engineering and Technology, Bangladesh**

2013 - 2017

BSc. with Honors degree in Computer Science and Engineering

## Publications<sup>1</sup>

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8. [Efficient Learning of Interpretable Classification Rules](#)  
**Bishwamittra Ghosh**, Dmitry Malioutov, Kuldeep S. Meel  
Proceedings of JAIR, 2022
7. [Algorithmic Fairness Verification with Graphical Models](#)  
**Bishwamittra Ghosh**, Debabrota Basu, Kuldeep S. Meel  
Proceedings of AAAI, 2022
6. [Social-Spatial Group Queries with Keywords](#)  
Sajid Hasan Apon, Mohammed Eunus Ali, **Bishwamittra Ghosh**, Timos Sellis  
ACM Transactions on Spatial Algorithms and Systems (TSAS), 2021
5. [Justicia: A Stochastic SAT Approach to Formally Verify Fairness](#)  
**Bishwamittra Ghosh**, Debabrota Basu, Kuldeep S. Meel  
Proceedings of AAAI, 2021
4. [A MaxSAT-based Framework for Group Testing](#)  
Lorenzo Ciampiconi, **Bishwamittra Ghosh**, Jonathan Scarlett, Kuldeep S. Meel  
Proceedings of AAAI, 2020
3. [Classification Rules in Relaxed Logical Form](#)  
**Bishwamittra Ghosh**, Dmitry Malioutov, Kuldeep S. Meel  
Proceedings of ECAI, 2020
2. [IMLI: An Incremental Framework for MaxSAT-Based Learning of Interpretable Classification Rules](#)  
**Bishwamittra Ghosh**, Kuldeep S. Meel  
Proceedings of AIES, 2019

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<sup>1</sup>sorted by publication year

1. [The Flexible Socio Spatial Group Queries](#)

**Bishwamittra Ghosh**, Mohammed Eunus Ali, Farhana M. Choudhury, Sajid Hasan Apon, Timos Sellis, Jianxin Li

Proceedings of the VLDB Endowment (PVLDB), 2018

## Professional Experiences

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### Conference Talks

AAAI-2022, AAAI-2021, AAAI-2020, ECAI-2020, CP-2019, VLDB-2019, IJCAI-2019, AIES-2019

### Academic Reviewer

AAAI-2022, AIES-2022, NeurIPS-2021

### Research Internship

- INRIA, Lille-Nord, France 2021
- Goldman Sachs, Singapore 2021
- Max Planck Institute For Software Systems, Kaiserslautern, Germany 2020

### Graduate Assistant

School of Computing, National University of Singapore

2018 - 2021

## Reference

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### Kuldeep S. Meel

Sung Kah Kay Assistant Professor

School of Computing, National University of Singapore, Singapore

Email: meel@comp.nus.edu.sg

### Daniel Neider

Professor

Carl von Ossietzky Universität Oldenburg, Germany

Email: daniel.neider@uol.de

### Debabrota Basu

Faculty

Scool, Inria, Lille-Nord, France

Email: debabrota.basu@inria.fr