

ARIJIT SHAW

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D-19, Saratpally, Midnapore ◊ Paschim Medinipur, W.B. 721101

EDUCATION

**Chennai Mathematical Institute &
IAI, TCG CREST, Kolkata**
Ph.D. Candidate, Computer Science
Advisor : Dr. Kuldeep S. Meel

2020 - Present

Chennai Mathematical Institute
M.Sc., Computer Science

2017 - 2019
Current GPA: 8.60/10

Jadavpur University, Kolkata
B.E., Computer Science and Engineering

2013 - 2017
Overall GPA: 7.10/10

PUBLICATION

Designing new Phase Selection Heuristics
with Kuldeep S. Meel in SAT Conference '20, July, 2020.

A Deadline-partition Oriented Heterogeneous Multi-core Scheduler for Periodic Tasks
with Sanjay Moulik, Rajesh Devaraj, Arnab Sarkar in IEEE PDCAT '17, Dec, 2017.

RESEARCH INTERESTS

Model Counting for SMT Theories
SAT and SMT Solvers
Model Checking and Software Verification
Automata Theory and Logic

RESEARCH EXPERIENCE

National University of Singapore
Visiting Scholar

September '22 - Present

- Advisor : Dr. Kuldeep S. Meel, School of Computing.

National University of Singapore
Research Internship

July '19 - August '20

- Using machine intelligence to build SAT solver for cryptography and other domains.
- Designing better general purpose SAT solvers. Designed solver won medals in SAT Competition 2020.
with Dr. Kuldeep S. Meel, School of Computing. [\[Github\]](#) [\[News\]](#)

Chennai Mathematical Institute
M.Sc. Thesis

January - June 2019

- Efficient Software Model Checking for program with Arrays within [2LS](#)
with Prof. Mandayam Srivas.

Chennai Mathematical Institute

August 2018 - November 2018

Project

- Development of a Trace Abstraction based Software Model Checker. [[Github](#)]
with Prof. Mandayam Srivas.

Tata Research Development and Design Centre, Pune

June 2018 - July 2018

Research Internship

- Development of a CEGAR based algorithm for verification of concurrent systems.
with Anand Yeolekar, Verification and Validation Team.

Jadavpur University

September 2016 - March 2017

Undergraduate Project

- Use of game theory to find influential node in big data of Social Network
with Dr. Subhadip Basu, Dept. of Computer Science and Engineering.

IIT Guwahati

May - July 2015

Summer Internship

- Development of DP-Fair Scheduling System for Heterogeneous multiprocessor systems
with Dr. Arnab Sarkar, Dept. of Computer Science and Engineering.

ACADEMIC ACHIEVEMENTS

Designed SAT solver wins at SAT Competition 2020, EDA Challenge 2021 [[News](#)]

Selected for admission in PhD program in National University of Singapore. (August '20 session)

Selected for admission in PhD program at Indian Statistical Institute. (August '19 session, '21 session)

Selected for JRF by UGC NET (Percentile 99.991) December 2018.

Ranked 11th in JEST Theoretical Computer Science, 2017.

Selected for Interviews, TIFR Graduate Admissions, 2017.

GATE CS 2017 score 721 (All India Rank - 576).

Selected for Internship, R.C.Bose Centre for Cryptology, ISI, Kolkata (Summer 2018) .

ACADEMIC EXPERIENCES

Teaching Assistantship

- Data Mining and Machine Learning .
- Model Checking and Software Verification

*Instructor : Prof. Madhavan Mukund**Instructor : Prof. Mandayam Srivas***Posters Presented**

- 7th Indian SAT-SMT School
- Computer Science Research Week, NUS
- 4th Indian SAT-SMT School

*IIT Madras, Dec 2022**National University of Singapore, Jan 2020**IIT Bombay, Dec 2019***Talks**

- “Towards building Scalable Bitvector Model Counter”

- ACMU, Indian Statistical Institute

January 2023

- Indian SAT-SMT Winter School

IIT Madras, Dec 2022

RELEVANT COURSES

Graduate Courses

Computational Complexity Theory
Advanced Algorithms
Logic, Automata, Games
Model Checking and Software Verification
Concurrency Theory
Symbolic Analysis with SMT Solvers
Games on Graphs
Interactive Theorem Proving

Undergraduate Courses

Operating Systems
Computer Networks
Compiler Design
Computer Organization & Architecture
Cryptography
Machine Learning

TECHNICAL STRENGTHS

Computer Languages	C/C++, Python, Haskell, Java
Tools and Solvers	NuSMV, CUDD, CBMC, Z3, MathSAT
Theorem Provers	Coq, PVS
Others	L ^A T _E X, Shell Script.

PERSONAL DETAILS

Languages Proficient	Bengali, English, Hindi.
Date of Birth	July 14, 1995

REFERENCE

Kuldeep S. Meel

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Mandayam Srivas

Adjunct Professor, Chennai Mathematical Institute

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Sanjoy Kumar Saha

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