Priyanka Golia

https://priyanka-golia.github.io

Affiliation

Ph.D. Student
Joint degree programme of Indian Institute of Technology Kanpur, India and
National University of Singapore, Singapore
Expected graduation: May, 2023

Research Interests

My research interest lies in the area of Functional Synthesis, Constraint Solving and Sampling, Formal Verification, and Knowledge Compilation.

Education

Indian Institute of Technology (IIT) Kanpur, India &
National University of Singapore (NUS), Singapore *(Jul '17 – Present)*
Doctorate of Philosophy (Ph.D.) in Computer Science

Ph.D. Advisors: **Prof. Subhajit Roy** and **Prof. Kuldeep S. Meel**

Malaviya National Institute of Technology (MNIT) Jaipur, India *(May '17)*
Master of Technology (M.Tech) in Computer Science

Vellore Institute of Technology (VIT) Vellore, India *(May '15)*
Bachelor of Technology (B.Tech) in Computer Science

Tutorial

Automated Synthesis: Towards the Holy Grail of AI.
Co-presenters: S. Akshay, Supratik Chakraborty, Kuldeep S. Meel and Subhajit Roy.

1. Presented in AAAI conference on Artificial Intelligence (AAAI), January 2022.
2. Will be Presenting in International Joint Conference in Artificial Intelligence(IJCAI), July 2022.

Publications

1. **A Scalable Shannon Entropy Estimator**
   Priyanka Golia, Brendan Juba, Kuldeep S. Meel
   In Proc. of International Conference on Computer Aided Verification (CAV), 2022.
2. **On Quantitative Testing of Samplers**
   Mate Soos, Priyanka Golia, Sourav Chakraborty, Kuldeep S. Meel
   In Proc. of International Conference on Principles and Practice of Constraint Programming (CP), 2022.
3. **Engineering an Efficient Boolean Functional Synthesis Engine**
   Priyanka Golia, Friedrich Slivovsky, Subhajit Roy, Kuldeep S. Meel
   In Proc. of International Conference On Computer Aided Design (ICCAD), 2021
   Best Paper Award Nomination.
4. **Program Synthesis as Dependency Quantified Formula Modulo Theory**
   Priyanka Golia, Subhajit Roy and Kuldeep S. Meel
   In Proc. of International Joint Conference on Artificial Intelligence (IJCAI), 2021.
5. **Designing Samplers is Easy: The Boon of Testers**
   Priyanka Golia, Mate Soos, Sourav Chakraborty, Kuldeep S. Meel
   In Proc. of Formal Methods in Computer-Aided Design (FMCAD), 2021.
6. **Manthan: A Data-Driven Approach for Boolean Functional Synthesis**
   Priyanka Golia, Subhajit Roy and Kuldeep S. Meel
   In Proc. of International Conference on Computer Aided Verification (CAV), 2020.

Talks

- **Manthan: A Data-Driven Approach for Boolean Functional Synthesis**
  1. Invited student talk at iVerif: Workshop on artificial intelligence and Verification a Pre FSTTCS workshop, 2021.
  2. At Highlights of Logic, Games and Automata, 2021
  3. FMCAD student symposium, 2021
  4. 32nd European Summer School in Logic, Language and Information, 2021
  5. LiVe 2020: 4th Workshop on Learning in Verification, ETPAS, 2020.
  6. NUS research Week, 2020
  7. Conference talk, CAV, 2020
  8. Software Engineering Research in India, SERI, 2020
- **Program Synthesis as Dependency Quantified Formula Modulo Theory**
  1. Software Engineering Research in India, SERI, 2021
  2. International Workshop on Quantified Boolean Formulas and Beyond, SAT, 2021
  3. Formal Method Update, India, 2021
  4. NUS research Week, 2021
  5. Conference talk, IJCAI, 2021
- **Designing Samplers is Easy: The Boon of Testers**
  1. Conference talk, FMCAD, 2021
- **Engineering an Efficient Boolean Functional Synthesis Engine**
  1. Conference talk, ICCAD, 2021.
  2. Networking event Munich, ICCAD, 2021.

Teaching Assistant

- Mathematics for Computer Science (UG course), Autumn, 2021-2022, IIT Kanpur.
- Introduction to Artificial Intelligence (UG course), Winter, 2019-2020, 2020-2021, NUS, Singapore.
- Knowledge Complication and Representation (PG course), Autumn, 2019-2020, 2020-2021, NUS, Singapore.
- Parallel Complexity and Sub-Logarithmic Time Algorithms (PG course), Autumn, 2018-2019, IIT Kanpur.
- Parallel Algorithms (PG course), Winter, 2017-2018, IIT kanpur.
- Computer Organisation (UG course), Autumn, 2017-2018, IIT Kanpur.