

Research Interest

- SAT encodings
- Computation Complexity
- Automata Theory
- Algorithms
- Parameterized Complexity
- Game Theory

Education

- 2014–Present **PhD., Computer Science**, *Technische Universität (TU)*, Wien, Austria.
Doctoral Program Logical Methods in Computer Science (LogiCS)
- 2012–2014 **M.Sc. Theoretical Computer Science**, *Institute of Mathematical Sciences (IMSc)*,
Chennai, Tamilnadu, India.
- 2008–2012 **B.Tech, Computer Science and Engineering**, *Sardar Vallabhbhai National Institute of Technology (SVNIT)*, Surat, Gujrat, India, CGPA. 8.04/10.

Research

PhD.(currently working)

Title *SAT-based Techniques for Structural Problem Decompositions*
Supervisor Prof. Dr. Stefan Szeider

Master thesis

Title *Communication and Consensus in Public*
Supervisor Prof. Dr. R. Ramanujam

Bachelor thesis

Title *Implementation of Signal processing algorithms on FPGA*
Supervisors Dr. M. A. Zaveri, Dr. A. D. Darji

Conferences / Workshops / Summer Schools attended

- 19th International Conference on Theory and Applications of Satisfiability Testing (SAT), Labri, Bordeaux, France, July 5-8, 2016.
- SAT/SMT/AR Summer School 2016, IST/UL, Lisbon, Portugal, June 22-25, 2016.
- Symposium on New Frontiers in Knowledge Compilation, TU Wien, Austria, June 4-6, 2015.
- PhDs in Logic VII, TU Wien, Austria, May 14-16, 2015.

- International Conference on Logic and its Applications (ICLA), IMSc, Chennai, India, January 10-12, 2013.
- Theoretical Aspects of Rationality and Knowledge (TARK), IMSc, Chennai, India, January 7-9, 2013.

Research visits

1 March – **University of Helsinki**, *Helsinki, Finland*, Prof. Matti J“arvisalo.
31 May 2017

From 1 June **University of Potsdam**, *Potsdam, Germany*, Prof. Torsten Schaub.
2017

Honors and Awards

- Best student paper award for A SAT approach to Branchwidth [3] at SAT 2016, France.
- Finalist in ANTZ international autonomous robotic competition at IITB Techfest, Mumbai, Maharashtra, India. 2010.
- 3rd in Five Men Army, in MINDBEND annual technical event of SVNIT, Surat, 2009.
- Finalist in Maidens manual robotics event, in Autofest at SVNIT, Surat, 2008.
- Secured highest marks at state level in Mathematics in SSC, 2006.
- Ranked 18th in Merit List in SSC in Maharashtra state, 2006.
- Ranked 35th in Maharashtra Talent Search Examination from rural zone, 2005.

Extracurricular Activities

- Student representative for LogiCS in year 2014-2015.
- Organizer for Nirvana(A group run by students of SVNIT to promote educate underprivileged children), 2008-2012.
- A part of the Sponsorship Committee of Mindbend 2009, a technical event of SVNIT.

Skills

Languages

Skilled English, Hindi, Marathi, Marwadi
Beginner German, Gujrathi

Programming Languages

Comfortable C, C++, L^AT_EX, Python.

Basic- ASP, ASP.NET, Bash, HTML, Java, JavaScript, PROLOG,
Experience Sage, SQL, Visual Basic, and Assembly Languages for 8051 & 8085.

Tools

Matlab, Xilinx, Mathematica

References

Prof. Dr. Stefan Szeider, TU Wien, <https://www.ac.tuwien.ac.at/people/szeider/>

Prof. Dr. R. Ramanujam, IMSc, <http://www.imsc.res.in/~jam/>

Prof. Dr. Saket Saurabh, IMSc, <http://www.imsc.res.in/~saket/>

Publications

- [1] Simone Bova, Ronald de Haan, Neha Lodha, and Stefan Szeider. Positive and Negative Results for Parameterized Compilability. Technical Report AC-TR-16-003, TU Wien, 2016.
- [2] Johannes K. Fichte, Neha Lodha, and Stefan Szeider. SAT-Based Local Improvement for Finding Tree Decompositions of Small Width. In *Theory and Applications of Satisfiability Testing - SAT 2017 - 20th International Conference*, 2017. To appear.
- [3] Neha Lodha, Sebastian Ordyniak, and Stefan Szeider. A SAT Approach to Branchwidth. In *Theory and Applications of Satisfiability Testing - SAT 2016 - 19th International Conference*, 2016.
- [4] Neha Lodha, Sebastian Ordyniak, and Stefan Szeider. SAT-Encodings for Special Treewidth and Pathwidth. In *Theory and Applications of Satisfiability Testing - SAT 2017 - 20th International Conference*, 2017. To appear.