

RESEARCH INTERESTS	<b>Fast Algorithms for Optimization</b> My work focuses on the design of fast algorithms for problems in optimization, machine learning and theoretical computer science, using tools from continuous optimization.
EDUCATION	<ul style="list-style-type: none"> <li> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <ul style="list-style-type: none"> <li>● <b>University of Toronto</b> Ph.D., Department of Computer Science Advisor: Prof. Sushant Sachdeva MSc., Department of Computer Science</li> </ul> </div> <div style="width: 15%; text-align: right;">           Toronto, ON, Canada Sep 2017 - Aug 2022 (expected)  Sep 2017 - Jan 2019         </div> </div> </li> <li> <div style="display: flex; justify-content: space-between;"> <div style="width: 80%;"> <ul style="list-style-type: none"> <li>● <b>Indian Institute of Science Education and Research Pune</b> BS-MS Dual Degree, Mathematics Department Thesis: <i>Matching Under Preferences</i> Advisor: Prof. Saket Saurabh (IMSc Chennai)</li> </ul> </div> <div style="width: 15%; text-align: right;">           Pune, India Aug 2012 - May 2017         </div> </div> </li> </ul>
HONORS AND AWARDS	<ul style="list-style-type: none"> <li>● <i>Alfred B. Lehman Graduate Scholarship</i> (\$5000) Jan 2022</li> <li>● <i>Monica Ryckman Bursary</i> (\$5000) Jan 2021 <i>Dept. of Computer Science, University of Toronto</i></li> <li>● <i>NSERC - Post Graduate Scholarship</i> (\$21,000 per year) May 2020 - April 2023 <i>Natural Sciences and Engineering Research Council of Canada</i></li> <li>● <i>Ontario Graduate Scholarship</i> (\$15,000) May 2018 - April 2019 <i>Ontario Govt. and University of Toronto</i></li> <li>● <i>DST-INSPIRE Fellowship</i> Aug 2012 - May 2017 <i>Govt. of India</i></li> <li>● <i>S.N. Bhatt Memorial Excellence Fellowship</i> June 2015 - July 2015 <i>International Centre for Theoretical Sciences, India</i></li> </ul>
PUBLICATIONS	<ol style="list-style-type: none"> <li>1. <b>Deeksha Adil</b>, Brian Bullins, Sushant Sachdeva. <i>A Dual Approach to Highly Smooth Monotone Variational Inequalities</i>. Under Review.</li> <li>2. <b>Deeksha Adil</b>, Brian Bullins, Sushant Sachdeva. <i>Unifying Width-Reduced Methods for Quasi-Self-Concordant Optimization</i>. In Proceedings of the Thirty-fifth Conference on Neural Information Processing Systems (NeurIPS) 2021.</li> <li>3. <b>Deeksha Adil</b>, Brian Bullins, Rasmus Kyng, Sushant Sachdeva. <i>Almost-Linear Time Weighted <math>\ell_p</math>-norm Solvers in Slightly Dense Graphs via Sparsification</i>. In Proceedings of the 48th International Colloquium on Automata, Languages, and Programming (ICALP) 2021.</li> <li>4. <b>Deeksha Adil</b> and Sushant Sachdeva. <i>Faster <math>p</math>-norm minimizing flows, via smoothed <math>q</math>-norm problems</i>. In Proceedings of the Thirty First Annual ACM-SIAM Symposium on Discrete Algorithms (SODA) 2020.</li> <li>5. <b>Deeksha Adil</b>, Richard Peng and Sushant Sachdeva. <i>Fast, Provably convergent IRLS Algorithm for <math>p</math>-norm Linear Regression</i>. In Proceedings of the Thirty-third Conference on Neural Information Processing Systems (NeurIPS) 2019.</li> <li>6. <b>Deeksha Adil</b>, Rasmus Kyng, Richard Peng, and Sushant Sachdeva. <i>Iterative refinement for <math>\ell_p</math>-norm regression</i>. In Proceedings of the Thirtieth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA) 2019.</li> <li>7. <b>Deeksha Adil</b>, Sushmita Gupta, Sanjukta Roy, Saket Saurabh, Meirav Zehavi. <i>Parameterized Algorithms for the Stable Matching Problem with Ties and Incomplete Lists</i>. Theoretical Computer Science. 723. 10.1016/j.tcs.2018.03.015. 2018</li> </ol>

TALKS	<ul style="list-style-type: none"> <li>• <i>Fast Algorithms for <math>\ell_p</math>-Regression and Other Problems</i> Toyota Technical Institute at Chicago Theory Seminar, University of Michigan</li> </ul>	<p>Dec 2021 March 2022</p>
	<ul style="list-style-type: none"> <li>• <i>Width-Reduced Methods for Quasi-Self-Concordant Optimization</i> NeurIPS 2021, Virtual Conference ETH Zurich Algorithms and Complexity seminar</li> </ul>	<p>Dec 2021 Oct 2021</p>
	<ul style="list-style-type: none"> <li>• <i>Almost-linear-time Weighted <math>\ell_p</math>-norm Solvers in Graphs</i> ICALP 2021, Virtual Conference</li> </ul>	<p>July 2021</p>
	<ul style="list-style-type: none"> <li>• <i>Fast Algorithms for <math>\ell_p</math>-regression</i> Student Seminar, Dept. of Computer Science, Princeton University</li> </ul>	<p>Oct 2019</p>
	<ul style="list-style-type: none"> <li>• <i>Iterative Refinement for <math>\ell_p</math>-norms</i> Theory Group Talk, Dept. of Computer Science, University of Toronto</li> </ul>	<p>Oct 2018</p>
	<ul style="list-style-type: none"> <li>• <i>Matching Under Preferences</i> Max Planck Institute for Informatics, Saarbrucken, Germany Indian Institute of Science Education and Research, Pune, India</li> </ul>	<p>June 2017 May 2017</p>
	<ul style="list-style-type: none"> <li>• <i>Inertial Particles on a Random and Vibrating Potential Energy Landscape</i> Indian Institute of Science Education and Research, Pune, India International Centre for Theoretical Sciences, Bangalore, India</li> </ul>	<p>Sep 2015 July 2015</p>
PROFFESIONAL EXPERIENCE	<ul style="list-style-type: none"> <li>• <b>Institute for Advanced Study</b> Visiting Student</li> </ul>	<p>Princeton, NJ, USA Fall 2019</p>
	<ul style="list-style-type: none"> <li>• <b>Department of Informatics, University of Bergen</b> Research Intern, Supervisor: Prof. Saket Saurabh</li> </ul>	<p>Bergen, Norway Fall 2016</p>
	<ul style="list-style-type: none"> <li>• <b>The Institute of Mathematical Sciences</b> Research Intern, Supervisor: Prof. Saket Saurabh</li> </ul>	<p>Chennai, India Summer 2016, Winter 2017</p>
	<ul style="list-style-type: none"> <li>• <b>International Centre for Theoretical Sciences</b> Research Intern, Supervisor: Prof. Samridhi Sankar Ray</li> </ul>	<p>Bengaluru, India Summer 2014, Summer 2015</p>
TEACHING EXPERIENCE	<ul style="list-style-type: none"> <li>• <b>Teaching Assistant, University of Toronto</b> <i>CSC2421: Topics in Algorithms, Graduate Course</i> <i>CSC373: Algorithm Design and Analysis</i> <i>CSC304: Algorithmic game Theory and Mechanism Design</i> <i>CSC236: Theory of Computation</i> <i>CSC336: Numerical Analysis</i></li> </ul>	<p>Winter 2021 Summer 2018, 2021; Winter 2018, Fall 2018 Summer 2019; Fall 2021 Winter, Summer, Fall 2020</p>
CODE CONTRIBUTION	<ul style="list-style-type: none"> <li>• Julia and MATLAB implementations of our Algorithm pIRLS</li> </ul>	<p>NeurIPS 2019</p>
PROFESSIONAL SERVICE	<ul style="list-style-type: none"> <li>• Reviewer: FOCS(2018,2019,2020), STOC(2019,2021), SODA (2019), NeurIPS(2019), SAGT(2020)</li> </ul>	
REFERENCES	Available Upon Request	