

# Rahul Arora

---

<b>CONTACT INFORMATION</b>	DGP Lab, Bahen Centre for IT University of Toronto, Toronto ON M5S 2E4	arorar@dgp.toronto.edu dgp.toronto.edu/~arorar
<b>RESEARCH INTERESTS</b>	Interactive Computer Graphics Human-Computer Interaction Virtual and Augmented Realities	
<b>EDUCATION</b>	<i>PhD, University of Toronto</i> Major: Computer Science CGPA: 4.0/4.0	2015-Present
	<i>MTech, Indian Institute of Technology, Kanpur</i> Major: Computer Science and Engineering CGPA: 9.6/10.0	2014-2015
	<i>BTech, Indian Institute of Technology, Kanpur</i> Major: Computer Science and Engineering CGPA: 8.5/10.0	2010-2015
<b>PEER-REVIEWED PUBLICATIONS</b>	<b>MagicalHands: Mid-Air Hand Gestures for Animating in VR</b> <b>Rahul Arora</b> , Rubaiat Habib Kazi, Danny Kaufman, Wilmot Li, and Karan Singh <i>ACM Symposium on User Interface Software and Technology 2019 (UIST '19)</i> <a href="https://www.dgp.toronto.edu/projects/magical-hands/">https://www.dgp.toronto.edu/projects/magical-hands/</a>	
	<b>Volumetric Michell Trusses for Parametric Design &amp; Fabrication</b> <b>Rahul Arora</b> , Alec Jacobson, Timothy R. Langlois, Yijiang Huang, Caitlin Mueller, Wojciech Matusik, Ariel Shamir, Karan Singh, and David I.W. Levin <i>ACM Symposium on Computational Fabrication 2019 (SCF '19)</i> <a href="https://www.dgp.toronto.edu/projects/michell/">https://www.dgp.toronto.edu/projects/michell/</a>	
	<b>SymbiosisSketch: Combining 2D and 3D Sketching for Designing Detailed 3D Objects in Situ</b> <b>Rahul Arora</b> , Rubaiat Habib Kazi, Tovi Grossman, George Fitzmaurice, and Karan Singh <i>ACM SIGCHI Conference on Human Factors in Computing Systems 2018 (CHI '18)</i> <a href="https://doi.org/10.1145/3328939.3328999">https://doi.org/10.1145/3328939.3328999</a>	
	<b>Experimental Evaluation of Sketching on Surfaces in VR</b> <b>Rahul Arora</b> , Rubaiat Habib Kazi, Fraser Anderson, Tovi Grossman, Karan Singh, and George Fitzmaurice <i>ACM SIGCHI Conference on Human Factors in Computing Systems 2017 (CHI '17)</i> <a href="http://dx.doi.org/10.1145/3025453.3025474">http://dx.doi.org/10.1145/3025453.3025474</a>	
	<b>SketchSoup: Exploratory Ideation using Design Sketching</b> <b>Rahul Arora</b> , Ishan Darolia, Vinay P. Namboodiri, Karan Singh, and Adrien Bousseau <i>Computer Graphics Forum (CGF) 2017, presented at Eurographics 2017</i> <a href="http://dx.doi.org/10.1111/cgf.13081">http://dx.doi.org/10.1111/cgf.13081</a>	

**Derandomizing Isolation Lemma for  $K_{3,3}$ -free and  $K_5$ -free Bipartite Graphs**  
**Rahul Arora**, Ashu Gupta, Rohit Gurjar, and Raghunath Tewari  
*Symposium on Theoretical Aspects of Computer Science (STACS) 2016*  
<http://dx.doi.org/10.4230/LIPIcs.STACS.2016.10>

## OTHER PUBLICATIONS

**Mid-Air Drawing of Curves on 3D Surfaces in AR/VR (Preprint)**  
**Rahul Arora**, Karan Singh  
*arXiv preprint*  
<https://arxiv.org/abs/2009.09029>

**Creative Expression with Immersive 3D Interactions (Juried)**  
**Rahul Arora**  
*Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20 Doctoral Consortium)*  
<https://dl.acm.org/doi/10.1145/3334480.3375028>

**Designing Volumetric Truss Structures for Computational Fabrication (Juried)**  
**Rahul Arora**, Alec Jacobson, Timothy R. Langlois, Karan Singh, and David I.W. Levin  
*Graphics Interface 2018 Posters (GI '18)*  
<https://bit.ly/31CTjtw>

## AWARDS AND RECOGNITION

Wolfond Scholarship in Wireless Information Technology: CA \$10,000	2019
UofT Libraries Grad Exhibit Competition (3 winners): CA \$1,000	2019
Adobe Research Fellowship 2019 (11 fellows): US \$10,000	2018
Adobe Research Fellowship 2018 Finalist	2017
Mitacs Accelerate Award for industrial partnership: CA \$15,000	2016
Merit-cum-Means Scholarship, IIT Kanpur: Full tuition amount	2010–2014
Academic Excellence Award, IIT Kanpur (top 5% students)	2013

## INTERNSHIPS

<b>Adobe Research, Seattle, USA</b> <i>with Timothy Langlois, Danny Kaufman, and Rubaiat Habib</i> Worked on techniques for creating stylized animations of 2D fluids.	Summer 2019
<b>Adobe Research, Seattle, USA</b> <i>with Rubaiat Habib, Danny Kaufman, and Wil Li</i> Studied gestural methods for authoring animations in VR.	Summer 2018
<b>Autodesk Research, Toronto, Canada</b> <i>with Tovi Grossman and Rubaiat Habib</i> Developed an augmented reality tool for 3D concept sketching.	Winter 2017
<b>Autodesk Research, Toronto, Canada</b> <i>with Tovi Grossman and Rubaiat Habib</i> Conducted lab experiments to understand 3D sketching ability.	Summer 2016
<b>Inria, Sophia-Antipolis, France</b> <i>with Adrien Bousseau</i> Developed a user-guided method for ideation sketch interpolation.	Summer 2014

**Adobe Research, Bangalore, India** Summer 2013  
*with Ramesh Srinivasaraghavan*  
Built a gamified crowdsourcing platform for object recognition tasks.

**TEACHING  
EXPERIENCE**

**Computer Graphics**, University of Toronto Fall 2019  
Teaching Assistant for Prof. Alec Jacobson

**Computer Graphics**, University of Toronto Winter 2019  
Teaching Assistant for Prof. David Levin

**Computer Graphics**, University of Toronto Winter 2018  
Teaching Assistant for Prof. Karan Singh and Prof. David Levin

**Computer Graphics**, University of Toronto Fall 2017  
Teaching Assistant for Prof. Karan Singh and Prof. Alec Jacobson

**Intro to Theory of Computation**, University of Toronto Fall 2015  
Teaching Assistant for Prof. Azadeh Farzan

**Introduction to Computer Graphics**, IIT Kanpur Fall 2014  
Teaching Assistant for Prof. Vinay P. Namboodiri

**ACTIVITIES**

**Area Chair** for Graphics Interface (GI) 2020.

**Student Volunteer** at User Interface Software and Technology (UIST) 2019.

**Reviewer** for computer graphics conferences: SIGGRAPH, SIGGRAPH Asia, and Graphics Interface (GI).

**Reviewer** for computer graphics journals: Computer Graphics Forum (CGF), Transactions on Visualization and Computer Graphics (TVCG), Computer-Aided Design (CAD), and Computer Graphics & Applications (CG&A).

**Reviewer** for HCI conferences: User Interfaces Software and Technology (UIST), Conference on Human Factors in Computing Systems (CHI), Designing Interactive Systems (DIS), and Graphics Interface (GI).

**Reviewer** for specialized VR/AR conferences: Virtual Reality (IEEE VR), Virtual Reality Software and Technology (VRST), International Symposium on Mixed and Augmented Reality (ISMAR), Spatial User Interaction (SUI).

**Reviewer** for other venues: Springer Nature Applied Sciences (SNAS).