

# Rahul Arora

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**CONTACT INFORMATION** DGP Lab, Bahen Centre for IT  
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**RESEARCH INTERESTS** Interactive Computer Graphics  
Human-Computer Interaction  
Virtual and Augmented Realities

**EDUCATION** *PhD, University of Toronto* 2015-Present  
Major: Computer Science  
CGPA: 4.0/4.0

*MTech, Indian Institute of Technology, Kanpur* 2014-2015  
Major: Computer Science and Engineering  
CGPA: 9.6/10.0

*BTech, Indian Institute of Technology, Kanpur* 2010-2015  
Major: Computer Science and Engineering  
CGPA: 8.5/10.0

**PUBLICATIONS** **Creative Expression with Immersive 3D Interactions (Juried/Curated)**  
*Rahul Arora*  
*Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20 Doctoral Consortium)*

**MagicalHands: Mid-Air Hand Gestures for Animating in VR**  
*Rahul Arora, Rubaiat Habib Kazi, Danny Kaufman, Wilmot Li, and Karan Singh*  
*ACM Symposium on User Interface Software and Technology 2019 (UIST '19)*  
<https://www.dgp.toronto.edu/projects/magical-hands/>

**Volumetric Michell Trusses for Parametric Design & Fabrication**  
*Rahul Arora, Alec Jacobson, Timothy R. Langlois, Yijiang Huang, Caitlin Mueller, Wojciech Matusik, Ariel Shamir, Karan Singh, and David I.W. Levin*  
*ACM Symposium on Computational Fabrication 2019 (SCF '19)*  
<https://doi.org/10.1145/3328939.3328999>

**Designing Volumetric Truss Structures for Computational Fabrication (Juried/Curated)**  
*Rahul Arora, Alec Jacobson, Timothy R. Langlois, Karan Singh, and David I.W. Levin*  
*Graphics Interface 2018 Posters (GI '18)*

**SymbiosisSketch: Combining 2D and 3D Sketching for Designing Detailed 3D Objects in Situ**  
*Rahul Arora, Rubaiat Habib Kazi, Tovi Grossman, George Fitzmaurice, and Karan Singh*  
*ACM SIGCHI Conference on Human Factors in Computing Systems 2018 (CHI '18)*  
<https://doi.org/10.1145/3328939.3328999>

**Experimental Evaluation of Sketching on Surfaces in VR**

Rahul Arora, Rubaiat Habib Kazi, Fraser Anderson, Tovi Grossman, Karan Singh, and George Fitzmaurice

*ACM SIGCHI Conference on Human Factors in Computing Systems 2017 (CHI '17)*

<http://dx.doi.org/10.1145/3025453.3025474>

**SketchSoup: Exploratory Ideation using Design Sketching**

Rahul Arora, Ishan Darolia, Vinay P. Namboodiri, Karan Singh, and Adrien Bousseau

*Computer Graphics Forum (CGF) 2017, presented at Eurographics 2017*

<http://dx.doi.org/10.1111/cgf.13081>

**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>

**TEACHING  
EXPERIENCE**

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

Fall 2019

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

Winter 2019

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

Winter 2018

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

Fall 2017

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

Fall 2015

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

Fall 2014

**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**

**Adobe Research, Seattle, USA** Summer 2019  
*Mentored by Dr. Timothy Langlois, Dr. Danny Kaufman, and Dr. Rubaiat Habib*  
Developed a method for creating highly-stylized animations of 2D fluids.

**Adobe Research, Seattle, USA** Summer 2018  
*Mentored by Dr. Rubaiat Habib, Dr. Danny Kaufman, and Dr. Wil Li*  
Studied gestural methods for authoring animations in VR.

<b>Autodesk Research, Toronto, Canada</b>	Winter 2017
<i>Mentored by Dr. Tovi Grossman and Dr. Rubaiat Habib</i>	
Developed a prototype augmented reality tool for concept sketching in 3D.	
<b>Autodesk Research, Toronto, Canada</b>	Summer 2016
<i>Mentored by Dr. Tovi Grossman and Dr. Rubaiat Habib</i>	
Conducted controlled experiments to understand 3D sketching ability.	
<b>Inria, Nice, France</b>	Summer 2014
<i>Mentored by Dr. Adrien Bousseau</i>	
Developed a user-guided method for interpolating between ideation sketches.	
<b>Adobe Research, Bangalore, India</b>	Summer 2013
<i>Mentored by Ramesh Srinivasaraghavan</i>	
Built a gamified crowdsourcing platform for object recognition tasks.	

## ACTIVITIES

Reviewer for computer graphics conferences: SIGGRAPH and GI; computer graphics journals: CGF, TVCG, and CG&A; and HCI conferences: UIST, CHI, IEEE VR, DIS, SUI, and GI.

Area Chair for Graphics Interface (GI) 2020.

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