Rahul Arora

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 — 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

AWARDS AND RECOGNITION

UofT Libraries Grad Exhibit Competition (3 winners): CA $1000	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.

Autodesk Research, Toronto, Canada Winter 2017
Mentored by Dr. Tovi Grossman and Dr. Rubaiat Habib
Developed a prototype augmented reality tool for concept sketching in 3D.

Autodesk Research, Toronto, Canada Summer 2016
Mentored by Dr. Tovi Grossman and Dr. Rubaiat Habib
Conducted controlled experiments to understand 3D sketching ability.

Inria, Nice, France Summer 2014
Mentored by Dr. Adrien Bousseau
Developed a user-guided method for interpolating between ideation sketches.

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

REVIEWING EXPERIENCE

Human Factors in Computing Systems (CHI)	2017–2020
User Interface Software and Technology (UIST)	2018–2019
Transactions on Visualization and Computer Graphics (IEEE TVCG)	2019
Virtual Reality (IEEE VR)	2018–2020
Designing Interactive Systems (DIS)	2018
Spatial User Interfaces (SUI)	2018
Graphics Interface (GI)	2018
Computer Graphics and Applications (IEEE CG&A)	2017