

# GAURAV CHAURASIA

DISNEY RESEARCH ZURICH, STAMPFENBACHSTRASSE 48, ZURICH, SWITZERLAND

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## RESEARCH INTERESTS

Image-based rendering, 3D reconstruction  
GPU accelerated image synthesis  
Neural networks for computational photography  
Neural networks for modelling organic shapes (most recent, exploratory)

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## EXPERIENCE

- 2015– DISNEY RESEARCH ZURICH *Zurich, Switzerland*  
*Postdoctoral Associate (Computer vision group)*
- 2014–2015 MASSACHUSETTS INSTITUTE OF TECHNOLOGY *Cambridge MA, USA*  
*Postdoctoral Associate (Advisor: Prof. Frédo Durand)*

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## EDUCATION

- 2010–2014 INRIA *Sophia Antipolis, France*  
*Ph.D in Computer Science (Advisor: Dr. George Drettakis)*  
DISSERTATION: Algorithms & perceptual analysis for interactive free viewpoint image-based navigation
- 2009–2010 ENSIMAG *Grenoble, France*  
*M.Sc in Computer Science*
- 2005–2009 INDIAN INSTITUTE OF TECHNOLOGY DELHI *New Delhi, India*  
*B.Tech in Computer Science (Advisor: Prof. Subodh Kumar)*  
DISSERTATION: Real time traffic simulation

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## VISITING POSITIONS

- Aug 2013 MASSACHUSETTS INSTITUTE OF TECHNOLOGY *Cambridge MA, USA*  
*Visiting student (Advisor: Prof. Frédo Durand)*  
Parallel execution of non-parallel recursive filters.
- Aug 2012 UNIVERSITY OF CALIFORNIA BERKELEY *Berkeley CA, USA*  
*Visiting student (Advisor: Prof. Ravi Ramamoorthi)*  
Procedural noise functions for synthesizing non-Gaussian textures.
- Feb–Jun 2010 INRIA *Sophia Antipolis, France*  
*Research intern (Advisor: Dr. George Drettakis)*  
Image-based rendering for urban scenes.
- Summer 2008 NVIDIA *Bangalore, India*  
*Intern (Embedded graphics group)*  
OpenGL-ES extensions for GPU driver for embedded systems, OpenGL-ES 2.0 conformance test suite bugs.

2007 *Research intern (Advisor: Dr. Derek Molloy)*

Memory exercises as 3D games and user studies to test effect of 3D user interfaces on human recall.

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#### PUBLICATIONS

- 2016 M. Gharbi, G. Chaurasia, S. Paris, F. Durand. Deep joint demosaicking and denoising, *ACM Trans. Graph.* 35(6) (*SIGGRAPH Asia*). [www] [doi]
- 2016 ST Digumarti, G. Chaurasia, A. Taneja, A. Thomas, R. Siegwart, P. Beardsley. Underwater 3D capture using a low-cost commercial depth camera, *IEEE Winter Conference on Applications of Computer Vision (WACV)*. [www] [doi]
- 2015 M. Gharbi, Y. Shih, G. Chaurasia, J. Ragan-Kelley, S. Paris, F. Durand. Transform recipes for efficient cloud photo enhancement, *ACM Trans. Graph.* 34(6) (*SIGGRAPH Asia*). [www] [doi]
- 2015 S. Duchêne, C. Riant, G. Chaurasia, J. Lopez-Moreno, PY Laffont, S. Popov, A. Bousseau, G. Drettakis. Multi view intrinsic decomposition & relighting, *ACM Trans. Graph.* 34(5). [www] [doi]
- 2015 G. Chaurasia, J. Ragan-Kelley, S. Paris, G. Drettakis, F. Durand. Compiling high performance recursive filters, *High Performance Graphics*. [www] [doi]
- 2015 M. Benoit, R. Guerchouche, PD Petit, E. Chapoulie, V. Manera, G. Chaurasia, G. Drettakis, P. Robert. Is it possible to use highly realistic virtual reality in the elderly? A feasibility study with image-based rendering, *Journal of Neuropsychiatric Disease and Treatment*. [www] [doi]
- 2014 E. Chapoulie, R. Guerchouche, PD Petit, G. Chaurasia, P. Robert, G. Drettakis. Reminiscence therapy using image-based rendering in VR, *IEEE Virtual Reality*. [www] [doi]
- 2013 G. Chaurasia, S. Duchene, O. Sorkine-Hornung, G. Drettakis. Depth synthesis and local warps for plausible image-based navigation, *ACM Trans. Graph.* 32(3). [www] [doi]
- 2013 P. Vangorp, C. Richardt, E.A. Cooper, G. Chaurasia, M.S. Banks, G. Drettakis. Perception of perspective distortions in image-based rendering, *ACM Trans. Graph.* 32(4) (*SIGGRAPH*). [www] [doi]
- 2011 G. Chaurasia, O. Sorkine, G. Drettakis. Silhouette-aware warping for image-based rendering, *Comput. Graph. Forum* 30(4) (*EGSR*). [www] [doi]
- 2011 P. Vangorp, G. Chaurasia, PY Laffont, R. Fleming, G. Drettakis. Perception of visual artifacts in image-based rendering of façades, *Comput. Graph. Forum* 30(4) (*EGSR*). [www] [doi]
- 2011 M. Cabral, P. Vangorp, G. Chaurasia, E. Chapoulie, M. Hachet, G. Drettakis. A multimode immersive conceptual design system for architectural modeling & lighting, *IEEE Symposium on 3D User Interfaces (IEEE 3DUI)*. [www] [doi]

- 2010 [G. Chaurasia](#), B.R. Selvamani, N. Gupta, S. Kumar. Virtual chaotic traffic simulation, *Indian Conference on Computer Vision, Graphics & Image Processing (ICVGIP)*. [[www](#)] [[doi](#)]

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## PROFESSIONAL ACTIVITIES

Journal reviews	ACM Transactions on Graphics .....	2016
	ACM Transactions on Applied Perception .....	2014
	Computer Graphics Forum .....	2015
	IEEE Transactions on Visualization and Computer Graphics .....	2015, 2016
	The Visual Computer .....	2016, 2017
	Computers & Graphics .....	2015, 2017
	IEEE Signal Processing Letters .....	2015
	Journal of Signal Image & Video Processing .....	2013
Conference reviews	SIGGRAPH .....	2012, 2016
	SIGGRAPH Asia .....	2013, 2016
	Eurographics .....	2012, 2016
	High Performance Graphics .....	2016
	Pacific Graphics .....	2014, 2015, 2016
	Virtual Reality Science & Technology .....	2016

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## SUPERVISION

Autumn	Andrin Jenal (master thesis) .....	ETH Zurich
Spring 2016	Kritarth Anand (undergraduate thesis) .....	INRIA Sophia Antipolis/IIT Delhi
Spring 2013	Arunim Samat (undergraduate thesis) .....	INRIA Sophia Antipolis/IIT Delhi

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## TEACHING

Autumn 2016	Advanced Topics in Computer Graphics & Vision Seminar 252-5701-00L ..	ETH Zurich
Spring 2016	Advanced Topics in Computer Graphics Seminar 252-5704-00L ....	ETH Zurich
Spring 2015	TA: Digital & Computational Photography 6.815/6.865 .....	MIT

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## SCHOLARSHIPS & AWARDS

Aug 2010	PhD fellowship ( <i>Allocation de Recherche</i> ) by the French ministry for PhD studies.
Aug 2009	Scholarship of Excellence ( <i>Bourse d'Excellence</i> ) by ENSIMAG for Master's studies.
May 2007	Scholarship for 12 week research internship 'ODCSSS-07' in Dublin by Science Foundation of Ireland.
Jun 2005	All India Rank 54 in IIT-JEE 2005 (entrance examination for Indian Institutes of Technology) amongst nearly 300,000 aspirants.

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## TECHNICAL SKILLS

C++, MATLAB, Python, OpenGL, GLSL, CUDA, OpenCV, Java, L<sup>A</sup>T<sub>E</sub>X, SVN, Git, Bash, Vim, Visual Studio

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## REFERENCES

Dr. George Drettakis

*Director of Research, INRIA Sophia Antipolis, France*

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Prof. Frédo Durand

*Professor, Massachusetts Institute of Technology, Cambridge MA, USA*

🏠 <http://people.csail.mit.edu/fredo/>    ✉ [fredo@mit.edu](mailto:fredo@mit.edu)

Dr. Sylvain Paris

*Senior Researcher, Adobe Research, Cambridge MA, USA*

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