

GAURAV CHAURASIA

DISNEY RESEARCH ZURICH, STAMPFENBACHSTRASSE 48, ZURICH 8006, SWITZERLAND

✉ cgaurav@inf.ethz.ch 🏠 <http://people.inf.ethz.ch/cgaurav/>

RESEARCH INTERESTS

Image-based rendering
Model extraction from RGB-D data
Compilers and GPU acceleration for image synthesis
Convolutional Neural networks for computational photography
Neural networks for 2D/3D synthesis (exploratory)

EXPERIENCE

2015- **DISNEY RESEARCH ZURICH** *Zurich, Switzerland*
Postdoctoral Associate (computer vision)

2014-2015 **MASSACHUSETTS INSTITUTE OF TECHNOLOGY** *Cambridge MA, USA*
Postdoctoral Associate (Advisor: Prof. Frédo Durand)

EDUCATION

2010-2014 **INRIA** *Sophia Antipolis, France*
Ph.D in Computer Science (Advisor: Dr. George Drettakis)
DISSERTATION: Algorithms and 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

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.

Research intern (Advisor: Dr. Derek Molloy)

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

PUBLICATIONS

- 2016 M. Gharbi, G. Chaurasia, S. Paris, F. Durand
 Deep joint demosaicking and denoising
ACM Transactions on Graphics (SIGGRAPH Asia) [www] [doi]
- 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 Transactions on Graphics (SIGGRAPH Asia) [www] [doi]
- S. Duchêne, C. Riant, G. Chaurasia, J. Lopez-Moreno, PY Laffont, S. Popov, A. Bousseau, G. Drettakis
 Multi view intrinsic decomposition and relighting
ACM Transactions on Graphics (presented at SIGGRAPH) [www] [doi]
- G. Chaurasia, J. Ragan-Kelley, S. Paris, G. Drettakis, F. Durand
 Compiling high performance recursive filters
High Performance Graphics [www] [doi]
- 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 (IEEE VR) [www] [doi]
- 2013 G. Chaurasia, S. Duchene, O. Sorkine-Hornung, G. Drettakis
 Depth synthesis and local warps for plausible image-based navigation
ACM Transactions on Graphics (presented at SIGGRAPH) [www] [doi]
- P. Vangorp, C. Richardt, E.A. Cooper, G. Chaurasia, M.S. Banks, G. Drettakis
 Perception of perspective distortions in image-based rendering
ACM Transactions on Graphics (SIGGRAPH) [www] [doi]
- 2011 G. Chaurasia, O. Sorkine, G. Drettakis
 Silhouette-aware warping for image-based rendering
Computer Graphics Forum (Eurographics Symposium on Rendering) [www] [doi]
- P. Vangorp, G. Chaurasia, PY Laffont, R. Fleming, G. Drettakis
 Perception of visual artifacts in image-based rendering of façades
Computer Graphics Forum (Eurographics Symposium on Rendering) [www] [doi]
- M. Cabral, P. Vangorp, G. Chaurasia, E. Chapoulie, M. Hachet, G. Drettakis
 A multimode immersive conceptual design system for architectural modeling and 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 and Image Processing (ICVGIP) [www] [doi]

PROFESSIONAL ACTIVITIES

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|------------|--|------------------|
| Journal | ACM Transactions on Graphics..... | 2016 |
| reviews | 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 and Graphics | 2015, 2017 |
| | IEEE Signal Processing Letters | 2015 |
| | Journal of Signal Image and Video Processing..... | 2013 |
| Conference | SIGGRAPH..... | 2012, 2016 |
| reviews | SIGGRAPH Asia | 2013, 2016 |
| | Eurographics | 2012, 2016 |
| | High Performance Graphics | 2016 |
| | Pacific Graphics | 2014, 2015, 2016 |
| | Virtual Reality Science & Technology..... | 2016 |

SUPERVISION

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

TEACHING

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| 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 |

SCHOLARSHIPS AND AWARDS

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| 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. |

TECHNICAL SKILLS

C++, MATLAB, Python, OpenGL, GLSL, CUDA, OpenCV, Java, L^AT_EX, SVN, Git, Bash, Vim, Visual Studio

REFERENCES

Dr. George Drettakis
Director of Research, INRIA Sophia Antipolis, France
 ☞ <http://www-sop.inria.fr/members/George.Drettakis/> ✉ george.drettakis@inria.fr

Prof. Frédo Durand

Professor, Massachusetts Institute of Technology, Cambridge MA, USA

🏠 <http://people.csail.mit.edu/fredo/> ✉ fredo@mit.edu

Dr. Sylvain Paris

Senior Researcher, Adobe Research, Cambridge MA, USA

🏠 <http://people.csail.mit.edu/sparis/> ✉ sparis@adobe.com