

GAURAV CHAURASIA

DISNEY RESEARCH ZURICH, STAMPFENBACHSTRASSE 48, ZURICH, SWITZERLAND

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RESEARCH INTERESTS

Image-based rendering, 3D reconstruction, image warping, computational photography, GPU accelerated image processing

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)

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

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*
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.

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, *SIGGRAPH Asia (conditionally accepted)*.
- 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]

PROFESSIONAL ACTIVITIES

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| 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 |
| | Computers & Graphics | 2015 |
| | IEEE Signal Processing Letters | 2015 |
| | Journal of Signal Image & Video Processing | 2013 |
| Conference reviews | SIGGRAPH | 2012, 2016 |
| | SIGGRAPH Asia | 2013 |
| | Eurographics | 2012, 2016 |
| | High Performance Graphics | 2016 |
| | Pacific Graphics | 2014, 2015, 2016 |
| | Virtual Reality Science & Technology | 2016 |

SUPERVISION & TEACHING

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| Spring 2016 | TA: Advanced Methods in Computer Graphics Seminar 252-5704-00L | ETH Zurich |
| Spring 2015 | TA: Digital & Computational Photography 6.815/6.865 | MIT |
| Spring 2013 | Co-supervised Kritarth Anand (undergraduate thesis) . . | INRIA Sophia Antipolis/IIT Delhi |
| Spring 2013 | Co-supervised Arunim Samat (undergraduate thesis) . . | INRIA Sophia Antipolis/IIT Delhi |

SCHOLARSHIPS & 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, 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

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Prof. Frédo Durand

Professor, Massachusetts Institute of Technology, Cambridge MA, USA

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Dr. Sylvain Paris
Senior Researcher, Adobe Research, Cambridge MA, USA
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