

GAURAV CHAURASIA

DISNEY RESEARCH ZURICH, STAMPFENBACHSTRASSE 48, ZURICH 8006, SWITZERLAND

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RESEARCH INTERESTS

Image-based rendering and 3D reconstruction
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

EXPERIENCE

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|----------------|---|----------------------------|
| 2015–till date | DISNEY RESEARCH ZURICH
<i>Postdoctoral Associate (computer vision)</i> | <i>Zurich, Switzerland</i> |
| 2014–2015 | MASSACHUSETTS INSTITUTE OF TECHNOLOGY
<i>Postdoctoral Associate (Adviser: Prof. Frédo Durand)</i> | <i>Cambridge MA, USA</i> |

EDUCATION

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

VISITING POSITIONS

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

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

PUBLICATIONS

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

- 2010 **Virtual chaotic traffic simulation**
G. Chaurasia, B.R. Selvamani, N. Gupta, S. Kumar
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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|-------------|---|----------------------------------|
| Spring 2017 | Andrin Jenal (masters 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

Available on request.