Gaurav Chaurasia

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Research Interests

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

Experience

2015- Postdoctoral Associate, *Disney Research Zurich, Switzerland*
ADVISOR: Dr. Paul Beardsley

2014-2015 Postdoctoral Associate, *Massachusetts Institute of Technology, Cambridge MA, USA*
ADVISOR: Prof. Fredo Durand

Education

2010-2014 Ph.D in Computer Science, *INRIA Sophia Antipolis, France*
ADVISOR: Dr. George Drettakis
THESIS: Algorithms & perceptual analysis for interactive free viewpoint image-based navigation

2009-2010 M.Sc in Computer Science, *ENSIMAG, Grenoble, France*

2005-2009 B.Tech in Computer Science, *Indian Institute of Technology Delhi, India*
ADVISOR: Dr. Subodh Kumar
THESIS: Real time traffic simulation

Visiting Positions

Aug 2013 Visiting student, *Massachusetts Institute of Technology, MA, USA* *(Advisor: Dr. Fredo Durand)*
Parallel execution of non-parallel recursive or IIR filters.

Aug 2012 Visiting student, *University of California Berkeley, CA, USA* *(Advisor: Dr. Ravi Ramamoorthi)*
Procedural noise functions for synthesizing non-Gaussian textures.

Feb-Jun 2010 Intern, *INRIA Sophia Antipolis, France* *(Advisor: Dr. George Drettakis)*
Image-based rendering for urban scenes.

Summer 2008 Intern, *NVIDIA Bangalore, India*
OpenGL-ES extensions for GPU driver for embedded systems, OpenGL-ES 2.0 conformance test suite bugs.

Summer 2007 Intern, *Dublin City University, Ireland* *(Advisor: Dr. Derek Molloy)*
Memory exercises as 3D games and user studies to test effect of 3D user interfaces on human recall.

Publications

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 2015).* [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 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) (to be presented at SIGGRAPH 2016).* [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) (presented at SIGGRAPH 2013)*. [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 2013)*. [www] [doi]

2011 G. Chaurasia, O. Sorkine, G. Drettakis. "Silhouette-aware warping for image-based rendering", *Comput. Graph. Forum 30(4) (EGSR 2011)*. [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 2011)*. [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 (3DUI 2011)*. [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 2010)*. [www] [doi]

Professional Activities

Journal reviews ACM Trans. Graph. 2015 Comput. Graph. Forum 2015, IEEE Signal Process. Lett. 2015, Comput. & Graph. 2015, IEEE Trans. Visual. Comput. Graph. 2015, ACM Trans. Appl. Percept. 2014, J. Signal Image & Video Process. 2013

Conference reviews Eurographics 2016, Pacific Graphics 2015, Pacific Graphics 2014, SIGGRAPH Asia 2013, SIGGRAPH 2012, Eurographics 2012

Supervision & Teaching

2015 TA: course 6.815/6.865 Digital & Computational Photography by Prof. Fredo Durand (MIT)

2013 Co-supervised Kritarth Anand *(undergraduate thesis, IIT Delhi/INRIA Sophia Antipolis)*

2013 Co-supervised Arunim Samat *(undergraduate thesis, IIT Delhi/INRIA Sophia Antipolis)*

Scholarships & Awards

Aug 2010 PhD fellowship (*Allocation de Recherche*) by the French ministry for PhD studies.

Aug 2009 Scholarship of Excellence (*Bourse d'Excellence*) 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, LaTeX, SVN, Git, Bash, Vim, Visual Studio

References

Available on request.