

MATTHIAS GRUNDMANN

PH.D. STUDENT

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OBJECTIVE	Pursuing a Ph.D. in Computer Vision to develop new technologies advancing the way users and systems utilize and perceive videos.	
EDUCATION	Ph.D. Student in Computer Science	since August 2008
	Advisor: Professor Irfan Essa	
	Master's Studies in Computer Science	August 2006
	Thesis: Real-Time Content-Aware Resizing of Video	December 2008
	GPA 4.0	
	<i>Georgia Institute of Technology, Atlanta, GA</i>	
	Dual Pre-Degree in	November 2005
	Computer Science	German GPA 1.5
	Mathematics	German GPA 1.6
	top 5% of students	
	<i>Technical University of Munich, Germany</i>	
	High School Diploma with GPA 1.0 - Valedictorian	June 2002
	<i>Wilhelm-von-Humboldt, Rostock, Germany</i>	
	Subjects: Mathematics, Physics and Social Studies	
RESEARCH EXPERIENCE	Graduate Research Assistant with Professor Irfan Essa	August 2006
	<i>Georgia Institute of Technology, Atlanta, GA</i>	- present
	Internship at Google Research Vision Group	May 2010
	supervised by Vivek Kwatra	- Aug 2011
	<i>Google Inc., Mountain View, CA</i>	
	Internship at Disney Research supervised by	January 2009
Irfan Essa, Arik Shamir and Jessica Hodgins	- August 2009	
<i>Disney Research, Pittsburgh, PA</i>		
Internship at Google Research Vision Group	May 2008	
supervised by Vivek Kwatra and Mei Han	- August 2008	
<i>Google Inc., Mountain View, CA</i>		
Research Assistant with Professor Nassir Navab	January 2006	
<i>Technical University of Munich, Germany</i>	- August 2006	

PUBLICATIONS

M. Grundmann, V. Kwatra, I. Essa
Auto-Direct Video Stabilization with Robust LI Optimal Camera Paths
IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
Colorado Springs, USA, June 2011

M. Grundmann, V. Kwatra, M. Han, I. Essa
Efficient Hierarchical Graph-Based Video Segmentation
IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
San Francisco, USA, June 2010

M. Grundmann, V. Kwatra, M. Han, I. Essa
Discontinuous Seam-Carving for Video Retargeting
IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
San Francisco, USA, June 2010

K. Kim, M. Grundmann, A. Shamir, I. Matthews, J. Hodgins, I. Essa
Motion Fields to Predict Play Evolution in Dynamic Sport Scenes
IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
San Francisco, USA, June 2010

R. Hamid, R. Kumar, M. Grundmann, K. Kim, I. Essa, J. Hodgins
Player Localization Using Multiple Static Cameras for Sports Visualization
IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
San Francisco, USA, June 2010

M. Grundmann, F. Meier and I. Essa
3D Shape Context and Distance Transform for Action Recognition (*oral*)
International Conference on Pattern Recognition (ICPR), Tampa, FL, December 2008

S. Benhimane, H. Najafi, M. Grundmann, E. Malis, Y. Genc, N. Navab
Real-time object detection and tracking for industrial applications (*oral*)
International Conference on Computer Vision Theory and Applications (VISAPP),
Funchal, Portugal, January 2008

PATENTS

United States Patent 7873211
"Content-aware video resizing using discontinuous seam carving"
5 pending

INVITED TALKS

Google Tech Talk: Video Stabilization on YouTube	9/20/2011
MSR Redmond: Video Segmentation	7/18/2011
Stanford MS&E 130: Introduction to LP with Applications	5/13/2011
UNC Chapel Hill: Video Segmentation and Stabilization	4/15/2011
UIUC: Video Segmentation and Stabilization	3/14/2011

FELLOWSHIPS /
GRANTS

Google US/Canada Fellowship in Computer Vision	June 2011
Graduate Research Assistantship <i>Georgia Institute of Technology</i>	August 2006 - present
\$2000 Travel Grant <i>Georgia Institute of Technology</i>	February 2010
Abroad Study Grant <i>Technical University of Munich, Germany</i>	October 2006

ACHIEVEMENTS

Foley Scholar Finalist	October 2011
NVIDIA Graduate Fellowship Finalist	April 2011
YouTube Certificate of Excellence for launching Video Stabilization in YouTube Video Editor <i>Google Inc., Mountain View, CA</i>	March 2011
Excellent Paper Recognition in Computer Vision for Discontinuous Seam-Carving for Video Retargeting <i>Google Inc., Mountain View, CA</i> featured on Google Research Blog (http://googleresearch.blogspot.com/2010/09/discontinuous-seam-carving-for-video.html)	July 2010
Outstanding Poster Presentation Award (\$2000 grant) Efficient Hierarchical Graph-Based Video Segmentation - Research competition, 300+ Ph.D. students - <i>Georgia Tech Research and Innovation Conference, Atlanta, GA</i>	February 2010
Best project award in Machine Learning class Instructor: Charles Isbell <i>Georgia Institute of Technology, Atlanta, GA</i>	May 2007
Ranked first in Computer Animation class Instructor: Jarek Rossignac <i>Georgia Institute of Technology, Atlanta, GA</i>	December 2006
Best group in lab course 3D Computer Vision Instructor: Nassir Navab <i>Technical University of Munich, Germany</i>	August 2006
"Pearls of Computer Science" honors program <i>Technical University of Munich, Germany</i>	October 2003 - August 2005

REVIEWING EXPERIENCE	ICCV 2011 (Programm Committee) CVPR 2011, 2012 (Reviewer) SIGGRAPH Asia 2010, 2011, SIGGRAPH 2011 (Reviewer)	
PROGRAMMING SKILLS	Programming Languages C++, Matlab, Python, Objective-C, Java Libraries IPP, OpenCV, LAPACK, OpenMP, OpenGL, Qt, Boost, Proto Buffers, iPhone SDK	
ACCREDITATION	Teaching Assistant Linear Algebra <i>Technical University of Munich, Germany</i>	October 2005 - February 2006
	Participation in three college classes during high school Topics: Groups and Fields, Graph Theory and CG	
VOLUNTEER EXPERIENCE	Developed real-time updated Google Earth Layer used by US Marines (USS Bataan) to coordinate help during 2010 Haiti Earthquake	January 2010
	High School Student Teacher for "Game programming with C++"	November 2001 - February 2002
LANGUAGES	English German French (basics)	