

# Curriculum Vitae Paul Merrell

Postdoctoral Scholar  
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## Education

2009 Ph.D. Computer Science - University of North Carolina at Chapel Hill  
2007 M.S. Computer Science - University of North Carolina at Chapel Hill  
2005 M.S. Electrical Engineering - Brigham Young University  
2003 B.S. Electrical Engineering - Brigham Young University

## Professional Activities

**Postdoctoral Scholar - Stanford University** (2009 - Present) Investigated new methods for automatically generating residential buildings motivated by a layout design process developed in architecture.

**Research Assistant - University of North Carolina at Chapel Hill** (2007-2009)  
Worked with Dinesh Manocha on procedural modeling of cities, landscapes, and other objects. I developed my technique for modeling objects using examples.

**Class Instructor - University of North Carolina at Chapel Hill** (Fall Semester 2008) Taught the undergraduate graphics course. Prepared and delivered the lectures and wrote and graded the class assignments and tests.

**Research Assistant - University of North Carolina at Chapel Hill (2005-2007)**

Worked with Marc Pollefeys on the DARPA UrbanScape program which is a complete system for vision-based reconstruction of urban environments, captured by multiple cameras on a moving vehicle in real-time.

**Graphics Intern - EA Games (Summer of 2007)**

Added high dynamic range and a sky system for the Warhammer Online computer game. Modeled how sunlight interacts with cloud layers with different cloud types and different times of day.

**Research Assistant - Brigham Young University (2003-2005)**

Worked with D.J. Lee on image processing and computer vision. Worked on obstacle avoidance on UAVs in the MAGICC lab.

**Radar Intern - Raytheon Missile Systems (Summers of 2003 - 2005)**

Worked on the radar for the SEARAM weapon system. The work mostly involved signal processing and programming.

Member of IEEE and ACM

## Accepted Papers

- P. Merrell, E. Schkufza, Z. Li, M. Agrawala, and V. Koltun. *Interactive Furniture Layout Using Interior Design Guidelines*. SIGGRAPH 2011. (Acceptance Rate: 19%)
- P. Merrell, E. Schkufza, and V. Koltun. *Computer-Generated Residential Building Layouts*. SIGGRAPH Asia, 2010. (Acceptance Rate: 17%)
- P. Merrell and D. Manocha. *Model Synthesis: A General Procedural Modeling Algorithm*. IEEE Transactions on Visualization and Computer Graphics (TVCG), 2011.
- P. Merrell and D. Manocha. *Example-Based Curve Synthesis*. Computers & Graphics, 2010.
- J. Sewall, D. Wilkie, P. Merrell, and M. Lin. *Continuum Traffic Simulation*. Eurographics, 2010.
- P. Merrell and D. Manocha, *Constraint-Based Model Synthesis*. Symposium on Solid and Physical Modeling, 2009.

- P. Merrell and D. Manocha, *Continuous Model Synthesis*. SIGGRAPH Asia, 2008. (Acceptance Rate: 18%)
- P. Merrell, A. Akbarzadeh, L. Wang, P. Mordohai, J.-M. Frahm, R. Yang, D. Nistér and M. Pollefeys, *Real-Time Visibility-Based Fusion of Depth Maps*, International Conference on Computer Vision (ICCV), 2007 (Acceptance Rate for Oral Presentation: 4%)
- P. Merrell, *Example-Based Model Synthesis*, ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D), 2007. (Acceptance Rate 35%)
- M. Pollefeys, D. Nistér, J.-M. Frahm, A. Akbarzadeh, P. Mordohai, B. Clipp, C. Engels, D. Gallup, S.-J. Kim, P. Merrell, C. Salmi, S. Sinha, B. Talton, L. Wang, Q. Yang, H. Stewénius, R. Yang, G. Welch, H. Towles, *Detailed Real-Time Urban 3D Reconstruction From Video*, International Journal of Computer Vision (IJCV), 2007.
- P. Merrell, P. Mordohai, J. -M. Frahm, M. Pollefeys. *Evaluation of Large Scale Scene Reconstruction*. Workshop on Virtual Representations and Modeling of Large-scale environments, 2007.
- P. Mordohai, J.-M. Frahm, A. Akbarzadeh, B. Clipp, C. Engels, D. Gallup, P. Merrell, C. Salmi, S. Sinha, B. Talton, L. Wang, Q. Yang, H. Stewenius, H. Towles, G. Welch, R. Yang, M. Pollefeys and D. Nistr, *Real-time Video-Based Reconstruction of Urban Environments*, 3D Arch, July, 2007

## Invited Papers

- Akbarzadeh, J.-M. Frahm, P. Mordohai, B. Clipp, C. Engels, D. Gallup, P. Merrell, M. Phelps, S. Sinha, B. Talton, L. Wang, Q. Yang, H. Stewenius, R. Yang, G. Welch, H. Towles, D. Nistér and M. Pollefeys. *Towards Urban 3D Reconstruction From Video*. Third International Symposium on 3-D Data Processing, Visualization and Transmission, Chapel Hill, North Carolina, USA, June 2006.

## Theses

- P. Merrell. *Model Synthesis*. Ph.D. Dissertation, University of North Carolina at Chapel Hill, 2009.
- P. Merrell. *Structure from Motion using Optical Flow Probability Distributions*. Master's Thesis, Brigham Young University, 2005.