

Curriculum Vitae Paul Merrell

Postdoctoral Scholar
Computer Science Department

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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.