

Mark Kim

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November 2017

Education

University of Utah

Ph.D. in Computing

Title: GPU-Enabled Surface Visualization

Advisor: Charles Hansen

Nov. 2015

University of Wisconsin, Madison

B.S. in Computer Science and Philosophy

1998-2002

Research Experience

Postdoctoral Researcher

Oak Ridge, TN

Oak Ridge National Laboratory

Sep. 2016 - Present

Postdoctoral Researcher

Salt Lake City, UT

Scientific Computing and Imaging Institute, University of Utah

Dec. 2015 - Sep. 2016

Research Assistant

Salt Lake City, UT

Scientific Computing and Imaging Institute, University of Utah

Aug. 2008 - Nov 2015

Graduate Intern

Livermore, CA

Livermore National Lab

May 2015 - Jul 2015

Graduate Intern

Los Alamos, NM

Los Alamos National Lab

May 2008 - Aug. 2008, May 2009 - Aug. 2009

Publications

Kim, M., T. Evans, S. Klasky, and D. Pugmire. "In Situ Visualization of Radiation Transport Geometry". In: *In Situ Infrastructures for Enabling Extreme-scale Analysis and Visualization* (Nov. 2017).

Klasky, Scott et al. "Exacution: Enhancing Scientific Data Management for Exascale". In: *37th IEEE International Conference on Distributed Computing Systems, ICDCS 2017, Atlanta, GA, USA, June 5-8, 2017*. June 2017, pp. 1927–1937.

Kim, M. and C. Hansen. "Closest Point Sparse Octree for Surface Flow Visualization." In: *Proceedings of IS&T Visualization and Data Analysis* (Feb. 2017).

Kress, J., R.M. Churchill, S. Klasky, M. Kim, H. Childs, and D. Pugmire. "Preparing for In Situ Processing on Upcoming Leading-edge Supercomputers". In: *Supercomputing Frontiers and Innovations 3* (Oct. 2016).

Kim, M. and C. Hansen. "Surface Flow Visualization using the Closest Point Embedding". In: *2015 IEEE Pacific Visualization Symposium* (Apr. 2015).

Kim, M. and C. Hansen. "GPU Surface Extraction with the Closest Point Embedding". In: *Proceedings of IS&T/SPIE Visualization and Data Analysis, 2015*. Feb. 2015.

Kim, M., G. Chen, and C. Hansen. "Dynamic Particle System for Mesh Extraction on the GPU". In: *Proceedings of the 5th Annual Workshop on General Purpose Processing with Graphics Processing Units. GPGPU-5*. London, England: ACM, May 2012, pp. 38–46.

Gyulassy, A., N. Kotava, M. Kim, C. Hansen, H. Hagen, and V. Pascucci. "Direct Feature Visualization Using Morse-Smale Complexes". In: *IEEE Transactions on Visualization and Computer Graphics* 18.9 (Sept. 2012), pp. 1549–1562.

UV, Kannan, M. Kim, D. Gerszewski, J.R. Anderson, and M. Hall. "Assembling Large Mosaics of Electron Microscope Images using GPU". In: *Proceedings of the 2009 Symposium on Application Accelerators in High Performance Computing (SAAHPC'09)*. 2009.

Invited Talks

GPU-enabled Particle Systems for Visualization

Oak Ridge National Laboratory

Oak Ridge, TN

March 2015

Dynamic Particle System for Mesh Extraction on the GPU

IAMCS-KAUST Workshop on Computational Biomedicine and Geophysics

Salt Lake City, UT

April 5, 2012

Implicit Surfaces with a Particle System on the GPU

IAMCS Workshop: Visualization in Biomedical Computation

College Station, TX

February 23, 2011

GPGPU with CUDA

Pervasively Parallel Solutions for Partial Differential Equations Workshop

KAUST, Saudia Arabia

May 2-5, 2010