Mark Kim

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Education

University of Utah — Advisor: Charles Hansen
PhD. in Computing — *Nov. 2015*
Title: GPU-Enabled Surface Visualization

University of Denver
M.S. in Computer Science — *2003-2005*

University of Wisconsin, Madison
B.S. in Computer Science and Philosophy — *1998-2002*

Research Experience

Computer Scientist — Oak Ridge National Laboratory
Oak Ridge, TN — *Apr. 2018 - Present*

Postdoctoral Researcher — Oak Ridge National Laboratory
Oak Ridge, TN — *Sep. 2016 - Apr. 2018*

Postdoctoral Researcher — Scientific Computing and Imaging Institute, University of Utah
Salt Lake City, UT — *Dec. 2015 - Sep. 2016*

Research Assistant — Scientific Computing and Imaging Institute, University of Utah
Salt Lake City, UT — *Aug. 2008 - No.v 2015*

Graduate Intern — Livermore National Lab
Livermore, CA — *May 2015 - Jul 2015*

Graduate Intern — Los Alamos National Lab
Los Alamos, NM — *May 2008 - Aug. 2008, May 2009 - Aug. 2009*

Selected Works

Leventhal, S., M. Kim, and D. Pugmire. "PAVE: An In Situ Framework for Scientific Visualization and Machine Learning Coupling". In: *Proceedings of the 4th International Workshop on Data Reduction for Big Scientific Data (DRBSD-5)@SC'18*. Nov. 2019.

Kim, M., S. Klasky, and D. Pugmire. "Dense Texture Flow Visualization using Data-Parallel Primitives". In: *Eurographics Symposium on Parallel Graphics and Visualization*. Ed. by H. Childs and F. Cucchietti. The Eurographics Association, June 2018.

Pugmire, D., A. Yenpure, M. Kim, J. Kress, R. Maynard, H. Childs, and B. Hentschel. "Performance-Portable Particle Advection with VTK-m". In: *Eurographics Symposium on Parallel Graphics and Visualization*. Ed. by H. Childs and F. Cucchietti. The Eurographics Association, June 2018.

Kim, M., T. Evans, S. Klasky, and D. Pugmire. "In Situ Visualization of Radiation Transport Geometry". In: *Proceedings of the In Situ Infrastructures on Enabling Extreme-Scale Analysis and Visualization*. ISAV'17. Denver, CO, USA: ACM, 2017, pp. 7–11.

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

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.

Invited Talks

Data Parallel Primitives and Scientific Visualization. — Oak Ridge, TN.
Oak Ridge National Laboratory. — *March 2018.*

Floating Point Array Compression on the GPU. — San Jose, CA.
GTC 2017 — *May 2017.*

GPU-enabled Particle Systems for Visualization — Oak Ridge, TN
Oak Ridge National Laboratory — *March 2015*

Dynamic Particle System for Mesh Extraction on the GPU — Salt Lake City, UT
IAMCS-KAUST Workshop on Computational Biomedicine and Geophysics — *April 5, 2012*

Implicit Surfaces with a Particle System on the GPU — College Station, TX
IAMCS Workshop: Visualization in Biomedical Computation — *February 23, 2011*

GPGPU with CUDA — KAUST, Saudia Arabia
Pervasively Parallel Solutions for Partial Differential Equations Workshop — *May 2-5, 2010*