Dr. Wayne O. Cochran

Computer Scientist
Intel Sports, Intel Corporation
wayne.cochran@intel.com

Interests and Skills

Computer Graphics : research and development, fast rasterization and low level optimization, 3D pipeline design, GPU shaders, mathematical modeling, volumetric rendering, intricate fractal models.

General Purpose GPU Programming : image processing, physics simulation, video stitching, CUDA.

Image Processing / Computer Vision : geometric transformations, color processing, camera models, image reconstruction, compositing, feature detection, projective geometry, dense stereo matching, belief propagation for solving Markov Random Fields, stereo calibration, OpenCV.

Numerical Computing : Optimization techniques, parallel algorithms, numerical analysis.

Professional Experience

Software Engineer 2017 - present, Intel Sports, Intel Corporation. Research, development and implementation of live video processing pipeline that captures, transforms, projects, rectifies, stitches, encodes, and transmits large stereo panorama streams. Research and Development of point-cloud encoding and rendering techniques.

Clinical Associate Professor 1999-2017, Washington State University Vancouver. Taught numerous courses at WSU that cover a wide range of topics from the sophomore to graduate level that includes Computer Graphics, Numerical Computing, Compiler Design, Theory of Computation.

Software Engineer 1990-1992, Raster Graphics Inc. Design and implementation of rasterization firmware.

Education

Ph.D. Computer Science 1998, Washington State University, School of Electrical Engineering and Computer Science. Dissertation Title: "A Recurrent Modeling Toolset."

M.S. Computer Science 1994, Washington State University, School of Electrical Engineering and Computer Science. Curtis Fellowship. Thesis title: "Fractal Volume Compression."

B.S. Mathematics cum laude, 1990. University of Washington. Golden Key, Dean's List, Phi Beta Kappa.

Selected Publications

1. Matthew J. Lambert, Wayne O. Cochran. Kyle G. Olsen, Cynthia D. Cooper, Evidence for widespread subfunctionalization of splice forms in vertebrate genomes, *Genome Research.* 2015 May; 25(5): 624632.

2. Wayne O. Cochran, John C. Hart, Patrick J. Flynn, Fractal Volume Compression, *IEEE Transactions on Visualization and Computer Graphics* December 1996.