

Alexandr Kuznetsov

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Education

University of California, San Diego

PhD student in Computer Science

Sept. 2016 - Present

MS in Computer Science

Sept. 2016 - June 2019

- Advisor: Prof. Ravi Ramamoorthi

Expected Graduation: June 2021

- GPA: 3.87

- Research interests:

- Computer graphics and physically-based rendering in particular
- Algorithms for filtering and denoising Monte Carlo renderings using deep learning
- Using machine learning to speed up rendering process

New York University

Bachelor of Arts in Computer Science and Mathematics

Sept. 2011 - May 2014

- GPA: 3.873

- Computer Science Prize for Academic Excellence

- Presidential Honors Scholar

Undergraduate Research Assistant. Advisor: Prof. Denis Zorin

- Implemented integral methods for solving incompressible fluids in Matlab
- Extended curve classes to accurately integrate, differentiate curves, find centers of mass, etc.
- Integrated Stokes kernels with $O(N)$ Direct Solver for Integral Equations on the Plane

Publications

- Learning Generative Models for Rendering Specular Microgeometry
Alexandr Kuznetsov, Miloš Hašan, Zexiang Xu, Ling-Qi Yan, Bruce Walter, Nima Kalantari, Steve Marschner, and Ravi Ramamoorthi.
SIGGRAPH Asia 2019
- Deep Adaptive Sampling for Low Sample Count Rendering
Alexandr Kuznetsov, Nima Khademi Kalantari, and Ravi Ramamoorthi.
Proceedings of the Eurographics Symposium on Rendering, 2018
- Multiple Axis-Aligned Filters for Rendering of Combined Distribution Effects
Lifan Wu, Ling-Qi Yan, **Alexandr Kuznetsov**, Ravi Ramamoorthi.
Proceedings of the Eurographics Symposium on Rendering, 2017

Work Experience

NVIDIA Research

Research Intern

June 2019 - Sep. 2019

- Rendering algorithm using machine learning for real time graphics research

Adobe Research

Research Intern

June 2018 - Sep. 2018

- Rendering algorithm using deep learning research

Yahoo! Inc.

Software Developer Engineer, Associate

Jan. 2015 - Sep. 2016

- Created and improved Apache Traffic Server plugins for HTTP traffic routing and caching
- Developed custom rules and tests for ATS using Lua for different Yahoo's properties

Blender Foundation

Google Summer of Code project

May 2013 - Sept. 2013

- Implemented multithreading for an existing video editing engine
- Developed code for parallel video processing on GPU with OpenCL
- Significantly improved the video editor performance on multicore machines with GPUs

Blender Foundation

Google Summer of Code project

May 2012 - Sept. 2012

- Ported the software (C, C++) to Android platform using NDK's standalone toolchain
- Modernized OpenGL code for drawing 3D graphics, primarily in the game engine
- Added support for mobile OpenGL ES and implemented matrix stack
- Developed a custom JNI binding and an event handler between the Java app and main code

Skills

- Programming Languages: C, C++, CUDA, OpenCL, Python, Matlab, Lua
- Development Tools: OptiX, PyTorch, Visual Studio, git, CMake, Unix tools, Android NDK