Soham Mehta

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OBJECTIVE

Experienced imaging and vision algorithms and systems engineer looking for matching positions to work on innovative, scalable, and commercial software.

PROGRAMMING SKILLS

Languages: C++ 14, Python, Bash.
Libraries/frameworks: Matlab, Cuda, OpenGL/GLSL, OpenCV, Eigen, Protobuf, Qt.

AREAS OF ENGINEERING EXPERIENCE

- Computer Graphics: Photo-realistic and Real-time rendering, Animation.
- Computational photography: Image fusion, Super-resolution, Bokeh, Camera ISP.
- Computer Vision: Multi-camera calibration, Stereo, SLAM.
- Signal Processing: Fourier and filter theory, Sampling, Noise, Reconstruction.
- Performance optimization: Memory management, Multi-threading, Arm SIMD, GPU.
- Processes: Version control, Unit-testing, Code review, Continuous integration, Deployment.

EDUCATION

- Ph.D. in Computer Science (Fall 2011 – Spring 2015)
  Computer Graphics
  University of California, Berkeley
  Prof. Ravi Ramamoorthi
  Thesis: "Adaptive Sampling and Filtering for Interactive Physically-based Rendering"
- B. Tech in Electrical Engineering with Minor in Computer Science (Fall 2007 – Spring 2011)
  Indian Institute of Technology, Bombay, India.

PROFESSIONAL EXPERIENCE

- Senior Computational Imaging Research Scientist and Engineer
  Light Labs Inc. (July 2015 – present)
  - Led computational photography efforts for and shipped several features in novel multi-aperture mobile products, the L16 consumer camera and the Nokia 9 phone camera
  - Mentored and managed two full-time direct reports and two full-time interns
  - Prototyped, tested, and optimized multi-image fusion, white-balancing and denoising
  - Designed internal tools including an interactive rendering pipeline and API that integrates several different algorithms and provides a simple interface for GUI developers
- Research intern in the Mobile Visual Computing Team
  Nvidia Corporation (May-Dec 2014)
  Developed a framework for physically-based rendering of mixed reality at interactive speeds on GPU using Kinect RGBD camera input.

- Research intern in the Advanced Rendering Technology Team
  Intel Corporation (May-July 2012)
  Developed an algorithm to render filtered soft shadows using 4D stochastic rasterization on GPU using HLSL.

PUBLICATIONS

- **Soham U. Mehta**, Kihwan Kim, Dawid Pajak, Kari Pulli, Jan Kautz, Ravi Ramamoorthi. Filtering Environment Illumination for Interactive Physically-based Rendering in Mixed Reality. In Proceedings of the Eurographics Symposium on Rendering (EGSR), 2015.
- **Soham U. Mehta**, JiaXian Yao, Ravi Ramamoorthi and Fredo Durand. Factored Axis-Aligned Filtering for Rendering Multiple Distribution Effects. In Proceedings of Siggraph, 2014.
- **Soham U. Mehta**, Brandon Wang, Ravi Ramamoorthi and Fredo Durand. Axis-Aligned Filtering for Physically-based Diffuse Indirect Lighting. In Proceedings of Siggraph, 2013.
- **Soham U. Mehta**, Brandon Wang, and Ravi Ramamoorthi. Axis-Aligned Filtering for Interactive Sampled Soft Shadows. In Proceedings of Siggraph Asia, 2012.
- **Soham U. Mehta**, Ravi Ramamoorthi, Mark Meyer, and Christophe Hery. Analytic Tangent Irradiance Environment Maps for Anisotropic Surfaces. In Proceedings of the Eurographics Symposium on Rendering (EGSR), 2012.
- Ling-Qi Yan, **Soham U. Mehta**, Ravi Ramamoorthi and Fredo Durand. Fast 4D Sheared Filtering for Interactive Rendering of Distribution Effects. In ACM Transactions on Graphics, Dec 2015.

HONORS

- NVIDIA Graduate fellowship (2014-15)
- U.C. Berkeley EECS graduate fellowship (2011-12)
- O.P. Jindal Engineering and Management Scholarship (2009)
- Gold Medalist at the 39th International Chemistry Olympiad, Moscow (2007)
- Paper reviewer for ACM Siggraph and EGSR (2012-2016)

REFERENCES

Available upon request.