

# RAYMOND YUN FEI

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## ESSENTIAL SKILLS

Specified in physics simulation including fluids dynamics, hair dynamics, elastic body and sound synthesis; broad knowledge in fields of computer graphics including rendering, hardware acceleration, computational geometry, 3D reconstruction, and sampling methods.

Expertise on graphics programming, comprehensive understanding of C/C++, OpenGL/DirectX programming, WebGL, JavaScript, HTML5; ample experience with Java, Assembly, C#; engineering experience with CUDA; familiar with kernel debugging techniques; knowledgeable of user interface design.

Experienced with Houdini, 3DSMax, After Effects, and Premiere.

## EDUCATION

Columbia University in the City of New York, New York, NY

PhD in Physics Simulation, Department of Computer Science, 2015–2020 (expected)

Columbia University in the City of New York, New York, NY

M. Sc. in Department of Computer Science, 2013–2014

Tsinghua University, Beijing, China

B. Eng. in School of Software, 2008–2013

## HONORS AND AWARDS

- Teaching Assistant Fellowship, Columbia University, 2014–2015.
- Excellent Graduation Thesis in Tsinghua University, ranked 1st in department, 2013.
- Winning Prize in NVIDIA CUDA Programming Contest, 2012.
- Student Research Competition Semi-finalist Star in ACM SIGGRAPH 2012.
- 2nd Scholarship in Tsinghua University, 2009.
- 2nd Prize in the Great Challenge Champion in Tsinghua University, 2009.

## INDUSTRIAL R&D EXPERIENCE

Adobe Research, Seattle, WA

Research Assistant, 2015 Summer

- Studied the techniques for character animation.

NVIDIA, Santa Clara, CA

Software Engineer, Intern, 2014 Summer

- Contributed to Regal (<https://github.com/p3/regal>), an open-source framework enhancing the compatibility of modern OpenGL drivers.

GE Healthcare, Beijing, China

Part-time Software Developer, Intern, 2012 Fall

- Developed a tool for layout verification during the installation of the X-Ray machine to relieve the burden of field engineers.

Hardware Computing Group, Microsoft Research Asia, Beijing, China

Software Engineer, Intern, 2011 Summer

- Prototyped for real-time 1080p 3D teleconference, and implemented a stereo matcher on the GPU as an alternate to Kinect for outdoors environment.

*Virtual reality is the only effective weapon against causality.*

## TEACHING EXPERIENCE

Columbia University, New York, NY

Teaching Assistant, 2014–2016

- Instruct students and design the assignments in Computer Graphics (COMS W4160) & Computer Animation (COMS 4167).

Tsinghua University, Beijing, China

Teaching Assistant, 2012–2013

- In charge of the course The Fundamental of Computer Graphics, introduced both industrial and academic graphics techniques in video games and designed assignments about GPU programming.

## REFEREED ARTICLES

- Interactive Acoustic Transfer Approximation for Modal Sound
  - with Dingzeyu Li, and Changxi Zheng. ACM Transactions on Graphics (SIGGRAPH 2016), Volume 35 Issue 1, December 2015.
- Computational Design of Metallophone Contact Sounds
  - with Gaurav Bharaj, David Levin, James Tompkin, Hanspeter Pfister, Wojciech Matusik, and Changxi Zheng. ACM Transactions on Graphics (SIGGRAPH Asia 2015), 2015.
- Parallelize L-BFGS-B on the GPU
  - with Guodong Rong, Bin Wang and Wenping Wang. Computers & Graphics, pp. 1–9, Volume 40, May 2014.
- Towards Photo Watercolorization with Artistic Verisimilitude
  - with Miaoyi Wang, Bin Wang, Kang-lai Qian and Wenping Wang. IEEE Transactions on Visualization and Computer Graphics, pp. 1–10, Feb. 2014.
- Bilateral Blue Noise Sampling
  - with Jiating Chen, Xiaoyin Ge, Li-Yi Wei, Bin Wang, Yusu Wang, Huamin Wang, Kang-lai Qian, Jun-hai Yong and Wenping Wang. ACM Transactions on Graphics (SIGGRAPH Asia 2013), Volume 32 Issue 6, Nov. 2013.
- Research on GPU Acceleration of Incompressible Smoothed Particle Hydrodynamics and Applications
  - Bachelor Thesis of Tsinghua University (in Chinese), pp. 1–68, 2013.
- Point-Tessellated Voxelization
  - with Bin Wang, and Jiating Chen. In the proceedings of Graphics Interface 2012, pp. 9–18, 2012.

## MISCELLANEOUS

- Peer-review for academic conferences & journals: CAD/Graphics, Pacific Graphics, SIGGRAPH Asia, Computer Animation & Virtual Worlds.
- Language: fluent in English, native in Chinese

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