RAYMOND YUN FEI

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ESSENTIAL SKILLS

Specified in physics simulation for visual effects; broad knowledge in fields of computer graphics including rendering, hardware acceleration, computational geometry, 3D reconstruction, and sampling methods.

Experienced with both fast prototyping and industrial development involving millions of lines of code. Comprehensive understanding of C/C++, Python, OpenGL/DirectX and CUDA/OpenCL programming; ample experience with JavaScript, HTML5, WebGL, Java, Assembly and C#; familiar with kernel debugging techniques.

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, 2015–2019 (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

INDUSTRIAL R&D EXPERIENCE

Weta Digital, Wellington, New Zealand
Simulation Intern, 2017 Summer

- Contributed to the next-generation physics simulation engine.

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.

REFEREED ARTICLES

- A Multi-Scale Model for Simulating Liquid-Hair Interaction
- with Henrique Maia, Christopher Batty, Changxi Zheng and Eitan Grinspun. ACM Transactions on Graphics (SIGGRAPH 2017), Volume 36 Issue 4, July 2017.
- 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.

ACADEMIC SERVICES

- As reviewer for multiple academic conferences & journals, including SIGGRAPH, ACM Transactions on Graphics, Computer Animation & Virtual Worlds, Graphics Model, CAD/Graphics and Pacific Graphics.

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.

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.

MISCELLANEOUS

- Language: fluent in English, native in Chinese