Hongwei Li

Mobile: (086) 181-0189-9296
Email: lihw81@gmail.com

Skills

- Expert of general graphics techniques, including real-time rendering, image processing, scientific visualization and mobile HMI.
- Familiar with gaming technology; expertise in OpenGL (desktop, ES and WebGL), DIrectX and OpenCL programming; knowing how to saturate the performance of AMD's hardware; as being driver developer, understand the graphics hardware architecture; rich experience in 3D programming in Android and iOS, and expertise at game rendering engine programming.
- Engaged in many web projects; familiar with webapp architecture design and moderate-sized website architecture; hands on experience in mixture programming model using HMLT5+native environment.
- A programmer using C/C++, Java, Javascript, Node.js, PHP, Lua, HTML5 and CSS.
- Familiar with engineering project management and Scrum practice; scrum master.
- Excellent spoken and written English.

Education

Sep. 2010 – April 2011
Postdoc (joint project), Department of Electrical & Computer Engineering, NUS, Singapore
Visiting Scholar, Internet Graphics Group, Microsoft Research Asia (MSRA), Beijing, China
- A new approach for efficient Bidirectional texture function (BTF) acquisition (A joint project with MSRA).

Aug. 2006 - Aug. 2010
PhD, Computer Science and Engineering, Hong Kong University of Sci. and Tech. (HKUST), Hong Kong
- Advisors: Dr. Pedro V. Sander and Dr. Chi-Wing Fu.
- Area of study: Computer Graphics.
- GGA : 9.93 (A-).

Sep.2004 – June 2006
Master, Computer Science and Engineering, Zhejiang University, P. R. China
- Advisor: Prof. Sanyuan Zhang and Prof. Xiuzi Ye
- Area of study: Computer-Aided Design.

Sep. 2000 - June 2004
B.E., Computer Science and Engineering, Zhejiang University, P. R. China
- Mixed class, Chu Kochen Honors College.
- Overall GPA 3.69/4.00, Major GPA 3.88/4.00, Top 5%.

Sep. 1997 – June 2000
High School diploma, Ningbo Xiaoshi High School, P.R. China
- Admission to Zhejiang University without national entrance examination.

Work Experience

June. 2013 – Present
Member of Technical Staff, Graphics Technology Initiatives, Advanced Micro Devices(Shanghai)Co. Ltd
- Research
  - General rendering techniques research, grass rendering, image/video upscaling, flame and hair
  - GPGPU networking application research
  - Propose architecture features

- Marketing technical support
  - Back up marketing and sales team in business negotiation and marketing actions
- University relationship
  - Hired the first research intern in AMD Shanghai office and co-authored the first academic paper.
  - Being visiting lecturer of undergraduate and postgraduate courses
  - Speaker of computer graphics courses and academic seminars
  - Enhancing the company's relationship with universities and academic institutions.

Sept. 2012 – Present
Owner and principal engineer, Open source project Paper3D and Bamboo
- Paper3D is cross-platform (iOS, Android, Win32) rendering engine; features the fast Android live wallpaper development with one-key build from an Autodesk FBX file. I built the engine from scratch and open sourced it.
- Bamboo is an interactive eBook engine that supports rendering text, image, video and 3D object. It can be used to create eBooks matching the same quality as Apple's iBook.

Apri. 2012 – May 2013
Manager, Rightware Oy, Shanghai, China
- Project management; oversee customer project work flow from requirement collection to final delivery and quality guarantee. The team includes 6 engineers and 2 designers.
  Rightware Kanzi is a cutting-edge UX design tool empowering mobile and automotive user interface development.
  - Konka K-1 3D Android launcher
  - Gionee Mushroom Android 3D live wallpaper
  - Kanzi engine porting to Qualcomm QRD 8x65 platform (joint project with Qualcomm QRD team).
  - QRD 3D live wallpapers (Crystal and Bubble).
  - Kanzi engine MIPS porting for Actions-semi.
  - Desay car cluster system.
  - Kanzi demo projects
- Technical pre-sales for Kanzi products; worked closely with VP of sales in customer contact; built relationship with domestic major players.
  - Lenovo
  - Gionee who purchased a couple of software licenses by my suggestions.
  - Desay
- Lead engineer
  - Architect and reviewer of all China projects.
  - Set up the entire development workflow of China team; code check-in, code review, automation testing and Scrum practice.
  - Technical contact window of China company; communicate with clients at all stages of product development from kick-start to shipping; work closely with sales and CEO.

Apri. 2011 – March 2012
Senior Engineer, AMD Design and Research Center, Shanghai, China
- OpenGL driver development (Windows and Linux)
  - Improving desktop and WebGL driver stability and performance, writing testing programs, giving feedback to developer community about questions on AMD OpenGL driver; proposing OpenGL extensions to internal discussion board; having ownership of internal development tools.
- First runner-up in AMD internal OpenCL contest.
- OpenGL training
  - drafting training documents in English, documenting the driver architecture, teaching training courses for new members.

May 2004 - Feb. 2005
Software Engineer, R&D Department, Onewave Technologies, Hangzhou, China
- User login module for VOD server (TV cable network of Hangzhou)
  - Programmer; drafted and implemented a TCP-based communication protocol.
- Stream content caching module for a VOD stream server.
  - Project leader; in charge of the module design and development process control.
  - Developed the caching module based on UDP under Linux.
- Dual-config module of DNS server
  - Programmer; improved the configuration module of an open source DHCP server to enable real-time configuration loading.

Dec. 2003 - April 2004
Research Intern, Bell Labs Research China (BLRC), Beijing, China
- VMS (voice message system) black box testing
  - Tester; wrote Perl script to analyze its log.
- uIM, text message gateway between GSM and internet
  - Programmer; designed the system and developed the first prototype under Linux.

June 2003 – Nov 2003
Software Engineer, China Netcom (Hangzhou) & ZJU Embedded System Lab, China
- Set-top box system
  - Programmer; modified the Mozilla browser for Set-top box; customized the Linux kernel and user environment for Set-top box.

Publications

Zengzhi Fan, **Hongwei Li**, Karl Hillesland and Bin Sheng. Simulation and Rendering for Millions of Grass Blades. ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games(I3D), Feb 2015

Hongwei Li, Modern OpenGL Programming, Course of SIGGRAPH Asia, Dec 2014.

Dongsoo Han and **Hongwei Li.** *Grass rendering and simulation with LOD*. GPU Pro 6. A K Peters/CRC Press. 2015.

Hongwei Li, Li-Yi Wei, Pedro V. Sander and Chi-Wing Fu. A*nisotropic blue noise sampling*. ACM Transactions on Graphics (TOG), (ACM SIGGRAPH Asia 2010), Dec 2010

Hongwei Li, Diego Nehab, Li-Yi Wei, Pedro V. Sander and Chi-Wing Fu. *Fast Capacity Constrained Voronoi Tessellation*. Poster, ACM The ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D), Feb.2010

Kui-Yip Lo, Chi-Wing Fu and **Hongwei Li**. *3D Polyomino Puzzle*. ACM Transactions on Graphics (TOG), (ACM SIGGRAPH Asia 2009), Vol.28, no. 5, 2009

Hongwei Li, Li-Yi Wei, Pedro V. Sander and Chi-Wing Fu. *Anisotropic Poisson disk sampling*. HKUST Report, HKUST-CS-09-02, April 2009

Hongwei Li, Chi-Wing Fu and Andrew J. Hanson. *Visualizing Multiwavelength Astrophysical Data*. In IEEE Transactions on Visualization and Computer Graphics (TVCG), (Proceedings of IEEE Visualization 2008), vol.14, No.6, pp. 1555-1562, Nov 2008

Hongwei Li, Kui-Yip Lo, Chi-Wing Fu, and Mang-Kang Lenung. *Dual Poisson-Disk Tiling: An Ecient Method for Distributing Features on Arbitrary Surfaces*. In IEEE Transactions on Visualization and Computer Graphics (TVCG), Vol 14, No.5, pp. 982-998, 2008

Hongwei Li, Chi-Wing Fu, Yinggang Li, and Andrew J. Hanson. *Visualizing Large-Scale Uncertainty in Astrophysical Data*, In IEEE Transactions on Visualization and Computer Graphics (TVCG), (Proceedings of IEEE Visualization 2007), Vol.13, No.6, pp.1640-1647, Nov, 2007

Kui-Yip Lo, **Hongwei Li**, Chi-Wing Fu, and Tien-Tsin Wong. *Interactive Reaction-Diusion on Surface Tiles*. In Pacific Graphics 2007, oral paper, Maul, Hawaii, pp. 65-74, Nov. 2007.

Services
2009,2011, 2012, 2013
Reviewer
- GMOD 2013.
- IEEE Pacific Graphics 2012.
- ACM SIGGRAPH 2012.
- IEEE Visualization 2009.
- ACM SIGGRAPH 2011.

2003-2004
Administrator, 88 Bulletin Board System, Zhejiang University,
- Administrated the Linux development section.
- Organized the member meeting, invited guest to talk and gave talks myself.

2002-2003
Director assistant of network department, university student union, Zhejiang University,
- Created student union website; daily maintainnence of website server.

2001-2002
Vice president of network department, Chu Kechen college student union, Zhejiang University
- Consultant for the network problem of students.
- Created school student union website.

Awards
- Zhejiang University, Second-class Scholarship, Oct 2003
- Zhejiang University, "Three Goods" Student, Oct 2003
- Zhejiang University, Third-class Scholarship, Dec 2002
- Zhejiang University, Scholarship for Freshman, Dec 2000

Portfolio (Project demo)
Watch online http://v.youku.com/v_show/id_XMjQwNzg0NDUy.html