

Pei QING

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Education

- 2011–2012 **MSc in Software Technology**, *The Hong Kong Polytechnic University*, Hong Kong, GPA:3.95/4.
with distinction
- 2006–2010 **BEng in Computer Science and Technology**, *Tsinghua University*, Beijing, GPA:85/100.
- 2007–2010 **BS in Economics**, *Tsinghua University*, Beijing, second major.

Experience

- 2012–present **Research Assistant**, *Biometrics Research Center, The Hong Kong Polytechnic University*, Hong Kong.
- 2010–2011 **Software Developer**, *Virtuos Games*, Shanghai.
- Architected and implemented a cross-platform game on both PC/Mac and iPhone/iPad. In charge of the graphics performance optimization.
 - Designed internal synchronization tool with C++ and Python to improve inter-department cooperation efficiency.
- 2009 **Intern Programmer**, *Endress+Hauser*, Shanghai.
- Designed 3D models with Modo to present previews of customized products.
 - Proposed and designed a product customization software with dynamic help for each part.
- 2008 **Volunteer, Assistant Officer**, *International Broadcast Center, 29th Olympic Games*, Beijing.
- Administrated attendance system of the venue, sending daily report on venue operations status.
 - Assisted arranging meal time slots for divisions to guarantee uninterrupted service and to minimize waiting time.
- 2007–2009 **Vice Director, Director**, *Liaison Department, Student Union of Dept. CS&T, Tsinghua University*, Beijing.
- Coordinated actions on seeking sponsors for student activities.
 - Raised money for freshman orientation party.

Projects

- 2013 **image-converter-for-kindle: Convert JPEG images to kindle screensaver size**, *Python*.
Resize, crop, rotate and optimize images for the eink screen on Kindle.
- 2013 **mymaxim: Show random maxim in my blog posts.**, *Javascript*.
A script that shows random maxims on my personal site.
- 2012 **hkputhesis: The Hong Kong Polytechnic University MSc thesis latex template**, *LaTeX*.
No one has ever made such a template for HKPU thesis. While I was writing my MSc dissertation, I wrote the template and opensourced it in case someone needed them in the future.
- 2011–2012 **3D Palmprint Recognition, MATLAB**.
- Achieved an unprecedented 98.7% classification accuracy using 3D palmprint features. (Accuracies found in previous literature were less than 93%.)
 - 2X speedup (compared to searching in sorted database) gained by utilizing the 3D global feature index.

- 2010 **Real-time Parallel Decoding of Multi-view Video**, *C++*, Adviser: Lifeng Sun, *Scoring 93/100, top 10%*.
- Involved in the scheduling algorithm design for dual-view to 8-view MVC video.
 - Assisted to implement a MVC enc/decoding tool, focusing on the decoding.
 - Designed and implemented a 3D MVC player on the NVIDIA 3D Vision platform.
 - Adopted by China Central Television to provide experimental 3D online broadcasting of the 2010 Asian Games.
- 2010 **MIPS CPU Simulator**, *Java*.
- A simulator that reads assembly code and illustrates how a MIPS CPU would execute it.
 - States of all registers and memory spaces can be shown.
- 2009 **Intelligent Video Processing**, *C++*.
- Implemented mean shift, GrabCut as pre-processors in the image processing chain.
 - Modified GrabCut by replacing user interaction with edge detection to achieve automatic object library creation.
 - Gave presentations in weekly discussion on the following paper: ARDECO, Interactive Video Cutout, Photo Clip Art, Video Object Cut and Paste.
- 2009 **Ray-tracing Renderer and Mesh Simplification**, *C++*, Computer Graphics course project, ranked 6/90+ students.
- Implemented a C++ ray-tracing renderer with Phong model.
 - Top 10% by rendering speed in class.
 - Implemented both vertex decimation and edge contraction algorithms to simplify a mesh to a customizable complexity.
 - Provided real-time preview of simplification progress with OpenGL.
- 2009 **PhoneMe: A cross-platform address book**, *Java*, Software Engineering course project, ranked 2/50+ students.
- Drafted and maintained requirements, design and technical document.
 - Committed 30% code of the 16,000-line project.
 - Allocated tasks to team members weekly and tracked daily progress and issues.
 - Held project discussion weekly and when necessary to minimize mis-communication costs among members.
 - Worked as a team leader.
- 2008 **16-bit FPGA MIPS CPU**, *VHDL*.
- Designed a five-step pipelining structure.
 - Implemented a processor in VHDL.
 - Drove several peripherals including audio and video output.
 - Processor frequency can be up to 50MHz on Cyclone II FPGA.
 - Worked as a team leader.

Publications

Bob Zhang, Wei Li, Pei Qing, and David Zhang. Palm-print classification by global features. *Systems, Man, and Cybernetics: Systems, IEEE Transactions on*, 43(2):370–378, 2013.

Awards

- 2009 **Outstanding Student Leaders in Department of Computer Science and Technology**, *Tsinghua University*.
- 2008 **Excellent Volunteer at International Broadcast Center (IBC)**, *The Beijing Organizing Committee for the Games of the XXIX Olympiad*.
- 2006 **First Prize in Haiwen Cup Shanghai Highschool English Competition**, *Shanghai Municipal Education Commission*.

Skills

Languages **Used in Working: MATLAB, C++**, *Used in Personal Code: Python, Java, R*.
 English **CET-6 652, TOEFL 107**, *fluent in spoken and written English*.