QING Pei

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Education

Tsinghua University, Beijing, China

B.E., Computer Science and Technology, GPA: 85/100	**2006.8 - 2010.7**
B.S., Economics,	**2007.9 - 2010.7**

Professional Experience

Virtuos Games, Shanghai, China

Junior Developer   **2010.7 to Present**

- Architected and implemented a cross-platform game on both PC/Mac and iPhone/iPad. In charge of the graphics performance optimization.
- Designed internal synchronize tool with C++ and Python to improve inter-department cooperation efficiency.

Endress+Hauser, Shanghai, China

Marketing Intern   **2009.8 - 2009.9**

- Designed 3D models with Modo to present previews of customized products.
- Proposed and designed a product customization software with dynamic help for each part.

Research Experience

Real-time Parallel Decoding of 3D Video   **2010.2 - 2010.7**
Institute of HCI and Media Integration, Tsinghua University

Independent Researcher,   Adviser: Prof. Lifeng Sun
Received a 93 of 100, top 10% in media group.

- Involved in the scheduling algorithm design for dual-view to 8-view MVC.
- 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.

Intelligent Video Processing   **2008.9 - 2009.5**
Graphics and Geometric Computing Group, Tsinghua University

Research Assistant,   Adviser: Prof. Shimin Hu

- 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

CG Course Projects   **2009.5 - 2009.6**
Received a 93 of 100, ranked #6 among over 90 students.   Lecturer: Prof. Shimin Hu

Ray-tracing

- Implemented a C++ ray-tracing renderer with Phong model.
- Achieved top 10% rendering speed in class.

Mesh Simplification

- 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.

Summer School of Network Design and Operations   **2009.7**
Network Startup Resource Center, University of Oregon, USA

Workshop Attendee,   Team Leader: Prof. Xiaoping Zhang

- Learned the principle, protocols and approach to set up a large network.
- Set up a network environment with VLAN, BGP, load balancing, etc.

PhoneMe: A cross-platform address book   **2009.4 - 2009.6**
Received a 95 of 100, ranked #2 among over 50 students.   Lecturer: Prof. Xiaoying Bai

Team Leader[1]

- 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.

HIGHLIGHTED PROJECTS

Hardware Design   **2008.5, 2008.12**
Implemented a mine sweeper game on FPGA platform with mouse, keyboard and VGA controllers included.
Designed and co-implemented an FPGA-based CPU with pipeline and instruction forwarding functionalities. Memory controller embedded.

Network   **2009.4 - 2009.6**
Implemented a lite FTP server and a client with C++ socket.
Overrode key methods in TCP and BGP protocols, e.g. BGP state-machine control.

EXTRACURRICULAR ACTIVITIES

Liaison Department, Student Union of Dept. CS&T, Tsinghua University

Director, *Vice Director*   **2008.6 - 2009.9**, **2007.5 - 2008.5**

- Coordinated actions on seeking sponsors for student activities.
- Raised money for freshman orientation party.

International Broadcast Center, 29th Olympic Games, Beijing, China   **2008.7 - 2008.8**

Volunteer, Assistant Officer, Personnel Division

- 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.

HONORS

Outstanding Student Leaders in Dept. of CS&T, Tsinghua University   **2009.11**
Excellent Volunteer at International Broadcast Center (IBC), BOCOG   **2008.9**

CORE SKILLS

Programming: C++, Java, C#, Python, Lua, X86 Assembly, Matlab, DVCS (Mercurial, Git), VCS (CVS, SVN)

Computer Applications: TeX (LaTeX, BibTeX), Emacs, Image Processing (Adobe Photoshop, Apple Aperture, Adobe Lightroom), Video Editing (Apple Final Cut, Adobe Premier), CAD (3ds Max, Modo), and a wide range of common productivity software on Windows/Mac/Linux platforms.

Language: Chinese Mandarin: mother tongue, TOEFL iBT: 107   **2010.11**

REFEREES

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[1]Team members were Weiwei Hu and Xiangxin Kong, currently at National University of Singapore and Tsinghua University respectively.