

# 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.  
**Data Source:** Samples of pulse, electrocardiogram, tongue photo, front face photo and breath composition analysis results from both healthy and diabetes people.  
**Objective:** To discover if some disease (diabetes in this case) has strong correlation with multiple physical signs of human body. Build a diagnosis model bases on the correlation to improve accuracy and consistency of diagnoses.  
**Methodology:** Iterations of “Feature Extraction → Fusion of Multiple Features → Feature Optimization → Machine Learning → Model Simplificaiton” process.  
**Current Status:** We achived an accuracy of 97.1% of diabetes diagnosis. By contrast, the accuracies using a single source of physical signs were 65% to 90%. Thus we have lowered the misdiagnosis rate by roughly an order of magnitude.
- 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

- 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 a world leading 98.7% identification 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.

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## 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.

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## 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*.

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## Skills

Languages **Used in Working: MATLAB, C++,  $\text{\LaTeX}$** , *Used in Personal Code: Python, Java, R.*

English **CET-6 652, TOEFL 107**, *fluent in spoken and written English.*

Zhihu **zhihu.com/people/qingpei**, *My questions and answers. (Chinese version of Quora).*