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 desease (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 literiture 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.

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++, 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).*