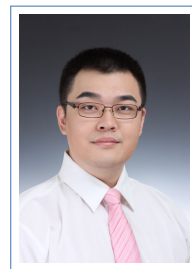


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求职意向

开发工程师 应用软件、系统前端/后端开发

教育经历

- 2011-2012 **软件科技专业硕士**, 香港理工大学, 香港, 学分绩:3.95/4 获“成绩优异”评价.
- 2006-2010 **计算机科学与技术专业学士**, 清华大学, 北京, 学分绩:85/100.
- 2007-2010 **经济学学士**, 清华大学, 北京, 二学位.

工作经历

- 2012 至今 **助研**, 人体生物特征识别研究中心, 香港理工大学计算学系.
研究对象: 健康与糖尿病人的脉搏采样、心电图、舌头图像、呼吸气体成分测试结果、脸部照片等多种数据.
研究目的: 寻找疾病(以糖尿病为例)与多种体征之间有无强相关性,并利用存在的相关性建立诊断模型,提高诊断的准确性与一致性.
研究方法: 多次迭代“特征提取 → 多种特征融合 → 特征优化 → 机器学习 → 模型简化”的过程.
当前成果: 我们在 400 余人的采样上做到糖尿病诊断 97.1% 的准确率。作为对比,仅利用单一类型数据特征建立的诊断模型,准确率在 65% 到 90% 不等。我们已经将模型的误诊率降低了大约一个数量级.
- 2010-2011 **软件工程师**, 上海维塔士软件科技公司, 上海.
○ 从零开始设计并实现了一个跨 PC/Mac/iOS 系统的航海游戏。独立完成帧率优化,将 iPhone 4 平台的帧率从引擎默认设定下的 12fps 提高至 35fps
○ 用 C++ 和 Python 打造内部协同工作工具,简化美工与技术部门交接工作的流程,降低解决冲突的成本
○ 协调程序团队与美工团队的工作,帮助团队在全年项目中向客户按时交付每一个版本,无一推迟
○ 担任公司 iPhone/iPad 实验项目开发团队负责人,带领 5 人团队从零开始学习运用新技术按计划完成项目,吸引 3 家客户与公司合作该平台新项目
- 2009 **实习程序员**, 上海恩德斯豪斯自动化设备有限公司, 上海.
○ 用 Modo 建立产品 3D 模型。
○ 提议并用 Java 设计实现了基于 3D 模型的设备选型系统,以利于市场部向客户展示。
- 2008 **志愿者,事务助理**, 第 29 届奥运会国际广播中心, 北京.
○ 协调相应部门志愿者满足各国媒体的工作需求,或汇报部门主管寻求外部资源解决问题
○ 负责场馆工作人员考勤、汇总并发送每日运营情况报表
- 2007-2009 **部长**, 清华大学计算机系学生会外联部, 北京.
○ 组织外联部成员联系在京系友并保持联络
○ 向各方寻求赞助以覆盖系内学生生活、迎新晚会的支出

项目经验

- 2013 **image-converter-for-kindle**, Python.
自动缩放、裁剪、旋转、优化图片,以便在 Kindle 的电子墨水屏幕上更好地显示。
- 2012 **hkputhesis: 香港理工大学计算学系硕士论文 L^AT_EX 模板**, LaTeX.
在此之前没有人做过这样一个模板。我写硕士论文期间,把自己写的模板整理出来并开源,方便将来有需要的人。

2011–2012 **3D 掌纹识别**, MATLAB.

- 用 3D 掌纹特征达到了世界领先的 98.7% 的身份验证准确率。(此前的文献不到 93%。)
- 通过 3D 掌纹全局特征索引,将单个采样验证速度提高至 2 倍。

2010 **多视点视频的实时解码**, C++, 导师: 孙立峰, 分数 93/100, 前 10%.

- 参与双目至 8 目多视点视频的解码器调度算法设计。
- 协助实现多视点视频编解码器,主要关注解码部分。
- 设计实现基于 NVidia 3D Vision 平台的立体视频播放器。
- 该项目被 CCTV 用于提供 2010 年亚运会的 3D 试验性网络视频转播。

2010 **MIPS CPU 模拟器**, Java.

- 读入汇编代码并展示 MIPS CPU 如何执行该代码。
- 所有寄存器和内存地址空间的状态可见。

2009 **智能视频处理**, C++.

- 实现 meanshift、GrabCut 等算法,用作图像预处理。
- 修改 GrabCut 算法,将人机交互过程取消,用边缘检测代替其原有功能,实现全自动图像分割和物体数数据库的建立。
- 每周组会介绍一个算法,包括: ARDECO, Interactive Video Cutout, Photo Clip Art, Video Object Cut and Paste.

2009 **光线跟踪渲染器及模型网格简化系统**, C++, 计算机图形学课程项目, 排名 6/90+.

- 用 C++ 实现 Phong 模型光线跟踪渲染器。
- 渲染速度在课程全部学生的前 10%。
- 同时实现顶点删除和边折叠算法的网格简化代码,支持将网格简化至任意自定义复杂度。
- 用 OpenGL 提供简化后网格的实时预览。

2009 **PhoneMe: 跨平台通讯录**, Java, 软件工程课程项目, 排名 2/50+.

- 草拟并维护需求文档、设计文档和技术文档。
- 在 16,000 行项目代码中提交了其中 30%。
- 分配组内任务,并跟踪每日进度。
- 每周组织小组讨论,避免组员间的任务冲突与对项目细节的不同理解。
- 任 3 人团队的组长。

2008 **16 位 MIPS 指令集 CPU 的 FPGA 实现**, VHDL.

- 设计了五级流水线结构。
- 用 VHDL 实现了一个 MIPS CPU。
- 驱动了包括 VGA 显示器和 PS/2 鼠标、键盘在内的外设。
- 处理器主频在 Cyclone II FPGA 上可达 50MHz。
- 任 3 人团队的组长。

发表论文

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.

工作技能

计算机语言	工作中使用: MATLAB, C++, L ^A T _E X; 个人项目使用: Python, Java, R
演示文稿	擅长用 Apple Keynote、Powerpoint 制作可读性高、重点突出的演示文稿
数据分析	熟练使用 Excel 制表,掌握计算机辅助数据分析,能够编写程序解决实际问题
英语	英语流利对话、读写,曾在国家级、省级英语竞赛获奖; CET-6 652 分, TOEFL 107 分
知乎	zhihu.com/people/qingpei, 我在知乎上的回答.

曾获奖项

2009 **计算机系优秀学生干部**, 清华大学.
2008 **国际广播中心优秀志愿者**, 第 29 届奥运会北京奥组委.
2006 **上海市海文杯英语竞赛一等奖**, 上海市教育委员会.
2004 **21 世纪杯全国英语演讲比赛二等奖**, 21 世纪报社、外教社.

Pei QING

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Education

- 2011–2012 **M.Sc. in Software Technology**, *The Hong Kong Polytechnic University*, Hong Kong, GPA:3.95/4 **with distinction**.
- 2006–2010 **B.Eng. 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 Simplification” process.
- Current Status:** We achieved 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 synchronization tool with C++/Python to improve inter-department cooperation.
 - Acted as communicator between Technical and Art department to smooth out interdepartmental tasks.
 - Acted as technical leader of internal iOS project. My demonstration attracted 3 clients to sign contracts with Virtuos on new iOS projects.
- 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.
- Collected needs from agents of different media. Contact officers from inside IBC to meet their needs, or turn to Director for request necessary resources.
 - Administrated attendance system of the venue, sending daily report on venue operations status.
- 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 e-ink screen on Kindle.
- 2012 **hkputhesis: The Hong Kong Polytechnic University M.Sc. thesis latex template**, *LaTeX*.
No one has ever made such a template for HKPU thesis. While I was writing my M.Sc. dissertation, I wrote the template and open-sourced it in case someone needed them in the future.
- 2011–2012 **3D Palm-print Recognition**, *MATLAB*.
- Achieved a world leading 98.7% identification accuracy using 3D palm-print features. (Accuracies found in previous literature were less than 93%.)
 - 2X speedup (compared to searching sorted database) gained by utilizing 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 CCTV to provide experimental 3D online broadcasting of the 2010 Asian Games.
- 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 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.

Skills

Programming	Used in Working: MATLAB, C++, L ^A T _E X. Used in Personal Code: Python, Java, R
Keynote	Proficient in making readable and clear slides using Apple Keynote or Microsoft Powerpoint. Experienced in delivering presentations.
Data Analyzing	Good at computer aided data analysis tools such as Excel, GNU R. Able to write programs to process and interpret data.
English	Fluent in spoken and written English, CET-6 652, TOEFL 107
Zhihu	zhihu.com/people/qingpei, My questions and answers. (Chinese version of Quora)

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 High-school English Competition**, *Shanghai Municipal Education Commission*.
- 2004 **Second Prize in “21st Century Cup” National English Speaking Contest**, *Foreign Language Teaching and Research Press*.