Kai 'Kay' Wu

imkaywu@gmail.com; +86-13718484008; **http://imkaywu.com**; Room 233, Apt. 6, No.10 Xitucheng Rd., Beijing, 100876

Research Interests

Hand gesture recognition and application in the HCI domain; 3D shape and pose estimation;
Shape representation; Content-based image retrieval; Intelligent systems and robotics

Education

Beijing University of Posts and Telecommunications (BUPT, 211 University) **Sep. 2010 - Jul. 2014 (expected)**

B.Eng., Electronic Engineering, School of Peida Ye [1]

Cumulative GPA: 86.4/100 or 3.58/4 (Cumulative GPA of Peking University)

Publication

Y. Ren, **K. Wu**, A Low Complex hand segment and recognition method for human-wearable device-interaction using priority-based scan-line stereo matching (In preparation, URL: **http://imkaywu.com/2013/12/05/Paper.html**)

Research

Real-time Hand Gesture Segmentation and Recognition for Wearable Devices **Sep. 2013 - Present**

Research Intern in Institute of Microelectronics, Tsinghua University

- Reviewed the literature, summarized and classified the existing algorithms, proposed 14 categories of hand gestures
- Developed an algorithm to accurately recognize hand gestures using a modified version of Earth Mover's Distance, and a less complex yet relatively robust one using positions of fingers for real-time application
- Employed **Machine Learning** algorithms for data training (Logistic regression, Gradient descent, etc.)
- Source Code available on Github: **https://github.com/imkaywu/Gesture-Recognition-3/**

Projects

Classroom Occupancy Query System (Course project for Embedded System Design) **Mar. 2013 - May. 2013**

This system helps students find available seats by recording number of people with sensors in real time, updating data on the server via a wireless network, and fetching the availability information on a mobile app.

- Independently developed an Android app, built a database for the app as well as hardware to fetch/update data
- Worked on presentation materials from scratch, presented and demonstrated the entire system to 100+ students
- Source Code available on Github: **https://github.com/imkaywu/QueryBuddy/**

Wi-Fi Based Classroom Interaction System **Sep. 2012 - May. 2013**

This system promotes the interaction between lecturers and students and consists of a mobile app and a PC program. The system send answers and questions in the app via Wi-Fi, dynamically display and analyze students' performance in PC without a web server or database. The system is currently used on campus.

- Independently developed the software part (a mobile app &a PC program), co-designed the user interface
- Presented and demonstrated the system to students from a top high school (Invited by The High School Affiliated to Renmin University of China)
- Won the **runner-up** for the award – The Most Popular Exhibit – voted by the students
- Source Code on Github: **https://github.com/imkaywu/PC-program/**; **https://github.com/imkaywu/Clicker/**

Musical Robot **Sep. 2011 - May. 2012**

This robot is a member of a musical robot band in which each member is capable of playing one instrument. Ours can play violin as well as practice Tai Chi.

- Developed C++ programs in the Windows CE platform to make the robot practice Tai Chi

Honors & Contests

Scholarships: Second-class scholarship of BUPT **Oct. 2011, 2012, 2013**

Recipient of the **Second Prize** in **National Undergraduate Electronic Design** contest (485 teams, Beijing Dist.) **Sep. 2013**

Recipient of **Successful Participant** in CUMCM and MCM **Sep. 2012, Feb. 2013**

Professional Experience

Internship in Beijing Co-Exceed Consuluting., LTD, practice course of WCDMA Test and Data communication **Jul. 2013**

Skills

Programming Languages: C/ C++, Java (Swing, Socket, multi-thread), Verilog, MATLAB, Android, PHP, MySQL

Tools: ISE, Quartus, Windows CE 6.0, Microsoft VS, Eclipse (ADT plugin),Vim

[1]. Department instituted to nurture talented students in Telecommunication and Electronic Engineering, named after the honorary president, pioneer in microwave and optical communication, Dr. Peida Ye.