

Yubin (Tim) Xiao

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EDUCATION

Macao Polytechnic Institute, School of Public Administration *Sept. 2012 – Jun. 2016*

- ♦ **Major:** Computer Science (Bachelor of Science in Computing)
- ♦ **GPA:** 3.84/4.00

Zhenhai Middle School, Ningbo, Zhejiang Province, China *Sept. 2009 – Jun. 2012*

- ♦ Senior High School Certificate

RESEARCH & DEVELOPMENT PROJECTS

A Portable Wireless Sensor Network (WSN) System for Real-Time Environmental Monitoring

Final Year Project in Macao Polytechnic Institute, Macao S.A.R., China *Sept. 2015 – Present*

Supervisor: Dr. Rita Tse

- ♦ Designed and built low-cost wireless sensor nodes using COTS sensors, microcontrollers, and Wi-Fi module
- ♦ Working on smart sleeping strategies to lower the energy consumption of the sensor node

Car-Fi: V2I via existing dual-access Wi-Fi access points *Jul. 2015 – Sept. 2015*

MobiCom 2015 Demo, Paris, France

Collaborators: Prof. Giovanni Pau, Davide Pesavento

- ♦ Implemented a C++ library for reliable and multi-priority uploading and downloading streams by using the μ TP (Micro Transport Protocol)
- ♦ Helped design the GUI of the demo program

Data-Mining on Sina Weibo and Urban Sensing data *2013 – 2014*

Macao Polytechnic Institute, Macao S.A.R., China

Supervised by: Dr. Rita Tse, Prof. Giovanni Pau, Prof. Gustavo Marfia

- ♦ Designed a crawler to collect Weibo in Hong-Kong, Macao, Beijing, Shanghai, Guangzhou, and Chengdu
- ♦ Trained a SVM model to classify and extract pollution-related Weibo tweets from all collected ones
- ♦ Performed data analysis using R, determined the correlation between pollution-related tweets and ground pollution truth by quantitative analyses, including Granger Causality and logit regression with ROC curves

PROFESSIONAL EXPERIENCES

Representing the Computing Program as a peer mentor *Jun. 2015 – 2016*

Macao Polytechnic Institute, Macao S.A.R., China

- ♦ Coaching and mentoring junior classmates in their academic and communication skills
- ♦ Tutoring junior classmates to develop Android applications

Representing MPI as a student representative *2012 – Present*

Macao Polytechnic Institute, Macao S.A.R., China

- ♦ Participating school's IET (Institution of Engineering and Technology) accreditation process
- ♦ Greeting and discussing with MPI visitors about the Program and research projects

Web Master of MobiCom 2015 *2014 – Sept. 2015*

Paris, France

- ♦ Constructed and kept maintaining the MobiCom 2015 website: <http://www.sigmobile.org/mobicom/2015/>
- ♦ Updated information and coordinated with committee members

Supervised students attending the UCLA summer research work *Aug. 2015*

University of California, Los Angeles, USA

- ♦ Obstacle Detection on Prototype Unmanned Vehicle – Used C# and EmguCV to process real-time images from a wireless camera on the LEGO unmanned vehicle and controlled it to circumvent the obstacles
- ♦ Data-Mining on Sina Weibo – Extracted gamblers from Weibo users in Macao to analyze their geographical locations and visualize their routes on Google Maps

Research Assistant in the Ubilab

2013 – 2015

Joint Research Center between MPI and UCLA Henry Samueli School of Engineering and Applied Science, Macao Polytechnic Institute, Macao S.A.R., China

- ♦ Programming:
 - Implemented a client program for the Ubicar – a school (MPI) vehicle equipped with a sensing testbed to monitor various environmental pollution data – to continuously uploading data to the server
 - Implemented a server program using Boost C++ libraries to process data received from the Ubicar
 - Wrote a website for tracking the geo. location of Ubicar and monitoring the pollution values in real-time
- ♦ Urban sensing research:
 - Performed quantitative data analysis on sensor data collected from the Ubicar
 - Performed data-mining on Sina Weibo tweets
- ♦ Sensing network testbeds assembly
- ♦ Server maintenance and equipment management

Year-1 best student to be invited to attend the UCLA summer research work

July 2013

University of California, Los Angeles, USA

- ♦ Designed a Weibo crawling tool using Python and collected Weibo tweets in Macao, Hong-Kong, Beijing, Shanghai, Guangzhou, and Chengdu
- ♦ Chinese word segmentation and sentimental analysis on Sina Weibo tweets

Two-week internship in EGO IT square

July 2012

- ♦ *Helped fix computer problems*
- ♦ *Assisted in assembling computer*

WORKING PAPERS AND TECHNICAL REPORTS

- ♦ R. Tse, Y. Xiao, G. Pau, M. Rocchetti, S. Fdida, G. Marfia — Sensing pollution on online social networks: a transportation perspective, submitted to an International journal paper *December 2015*
- ♦ R. Tse, Y. Xiao, G. Pau, M. Rocchetti, S. Fdida, G. Marfia — On the Feasibility of Social Network-based Pollution Sensing in Intelligent Transportation Systems, Cornell University Library: arXiv preprint arXiv:1411.6573 (<http://arxiv.org/abs/1411.6573>) *November 2014*

HONORS AND AWARDS

First Prize in Macau ICT Awards 2013 (MICTA)

2013

Macao S.A.R., China

Second Prize in the 5th Macao-wide IT Competition ALICE 3D Programming Contest

2013

Macao Polytechnic Institute, Macao S.A.R., China

First Prize in Winter Camp of Tsinghua University

2012

Beijing, China

Second Prize in 28th Zhejiang Technology Invention Contest

2012

Ningbo, Zhejiang Province, China

SCHOLARSHIPS

Scholarship for students from Mainland China with the Best Qualification at National College Entrance Examination

2012 – 2016

Prized by Macao Foundation, Macao S.A.R, China

Scholarship for students with the highest GPA in the school year 2012/2013

2013

Prized by Bank of China (Macao Branch), Macao S.A.R., China

TECHNICAL SKILLS

Expert in Java, Python, C, and C++ programming. Very capable of manipulating Linux operating system. Experienced in data mining, data processing, and data analysis using MATLAB and R.

- ♦ Operating Systems: Gentoo, Debian, OpenWrt, TinyOS
- ♦ Languages & Frameworks: C/C++, Python, Java, R, C#, JavaScript, SQL, Django, ASP.NET, Node.js, Flask
- ♦ Applications & IDEs: MATLAB, R, SPSS, Vim, PyCharm, Eclipse, Visual Studio, Altium Designer
- ♦ Hardware: Digital Sensors, Arduino, PCB Design, MIPS-based wireless routers, pcDuino

RESEARCH INTERESTS

Wireless Network Systems (especially WSNs), Data Mining, Network Protocols and Embedded Systems

LANGUAGES

- ◆ Madarin Chinese (mother tongue)
- ◆ English (TOEFL iBT: 111/120; fluent in listening, speaking, reading and writing)
- ◆ Canronese (basic in listening, reading and speaking)
- ◆ French (basic in reading)

ADDITIONAL INFORMATION

Hobbies: playing the violin (won the first prize in Tsing Winter Camp and passed the highest level 12 in proficiency test), calligraphy, travelling, photography

REFERENCES

- ◆ Dr. Im Sio Kei, Marcus (marcusim@ipm.edu.mo)
Director, School of Public Administration, Macao Polytechnic Institute
- ◆ Dr. Tse Tan Sim, Rita (ritatse@ipm.edu.mo)
Program Coordinator, Computing Program, School of Public Administration, Macao Polytechnic Institute