Shengrong Yin

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Objective	Seeking an internship position which can explicitly utilize my programming and computer skills to solve stimulating problems in wireless and embedded systems.

Technical Skills

Embedded Systems: Experience with C/C++ on MSP430, AVR and ARM architectures for control and signal processing including Arduino, Raspberry Pi, BeagleBone, OpenWRT, TinyOS and Contiki. Experience with PCB design for embedded system using Eagle.

Wireless Communication: Experience with 802.11bgn, 802.15.4, 6LowPAN and TCP/IP protocol. Proficiency in data collection, analysis and visualization. Proficiency in signal processing, synthesis and analysis programs developed in Python and Matlab.

Relevant Projects

Interconnecting 802.11 Devices to 802.15.4 Devices without Gateway
Designed and implemented a WiFi to IEEE 802.15.4 sensor nodes communication system based on OpenWRT and TinyOS without using a gateway. Designed a new modulation and demodulation scheme based on two different physical layers. Experimented and analyzed the wireless channel performance for both 802.11 and 802.15.4.

Prototyping Wearable Device for Real Dancing Performance
Designed and implemented a novel wearable device for dancers to capture and synchronize their dancing performance. Developed a new primitive to help synchronizing multiple dancers using timestamped accelerometer. Programmed and analyzed current commercial smart watch for accelerometer data acquisition, such as Samsung Gear, Pebbel and Android Wear.

Twonet: Large-Scale Wireless Sensor Network Testbed with Dual-Radio Nodes
Developed a system for dual band wireless sensor network to procure and analyze the wireless connectivity simultaneously. Built and debugged a distributed system for wireless sensor network testbed with servers, proxies and sensor nodes utilizing Python, Shell scripts based on Ubuntu 13.04; Validated and enabled a wireless sensor network testbed - Twonet to make it public for the academia usage.

Pace at Which US Government Can Update its Websites
Collected a list of top 500 government websites from Alexa Top Sites service. Investigated how soon US government can update their websites during the shutdown event using Shell and Python scripts.

BeagleBone Cape for Visual Light Communication
Designed and Implemented a BeagleBone Cape for a visual light communication system. Created a new network interface in BeagleBone for the enabled visual light communication.

TelosC Platform for TinyOS
Created a new platform with MSP430 and CC1101 for TinyOS. Experimented and Implemented CC1101 radio stack based on TinyOS.

Education

Ph.D. student in Computer Science	08/2013-now
University of Houston, Houston, USA	Advisor: Prof. Omprakash Gnawali
M.S. in Communication and Information System	06/2013
Wuhan University of Technology, Wuhan, China	
B.S. in Communication Engineering	06/2011
Wuhan University of Technology, Wuhan, China	

Internship

IBM China Development Lab	**Beijing, China**
Designed and implemented automated and manual test cases for the deployment of IBM cloud services using IBM Rational Application Developer and bash scripts.	02/2013-05/2013

Selected Publications

Shengrong Yin, O. Gnawali, P. Sommer and B. Kusy: *Multi Channel Performance of Dual Band Low Power Wireless Network*. In Proceedings of the 11th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS 2014).

Shengrong Yin, O. Gnawali, P. Sommer and B. Kusy: *Poster Abstract: Concurrent Wireless Channel Survey on Dual Band Sensor Network Testbed*.In Proceedings of the 11th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS 2014).

Patents

CN102322857B(granted)
"Position and posture measuring system and method for mechanical equipment", designed and implemented an adaptive navigating system for road header underground using C/C++.   2011