Shengrong Yin

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Objective

An internship position which can explicitely utilize my programming and computer skills to solve stimulating problems in wireless and embedded systems.

Technical Skills

Embedded Systems: Experience with C on TI MSP430, AVR, and ARM architectures for control and signal processing purposes. Experience with Arduino, Raspberry Pi, BeagleBone, OpenWRT, TinyOS, Contiki

Wireless Communication: Experience with protocol design and radio stack implementation for wireless communication systems. Proficiency with data collection in wireless sensor networks. Proficiency in signal processing, synthesis and analysis programs developed in Python and Matlab.

Relevant Projects

Wireless AP Integrated with Multiple Sensors
Co-developed a data acquisition system with multiple chemical sensors using Raspberry Pi.

802.11 to 802.15.4 Communication System
Designed and implemented a WiFi to IEEE 802.15.4 sensor nodes communication system based on OpenWRT and TinyOS without using a gateway.

BeagleBone Cape for VLC
Created a BeagleBone Cape for a visual light communication system.

Wearable Device Prototyping for Data Collection
Designed and implemented a wearable device for dancers to capture and synchronize they dancing performance with acceleration data.

Dual Band Wireless Connectivity Measurement
Developed a system for dual band wireless sensor network to procure and analyze the wireless connectivity simultaneously.

Dual Band WSN Testbed Design and Deployment
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 public usage.

US Government Shutdown 2013
Investigated how soon US government can update their websites during the shutdown event using Shell and Python scripts; Submitted research report and accepted by slashdot.org.

TelosC Platform for TinyOS
Created a new platform with MSP430 and CC1101 for TinyOS. Implemented CC1101 radio stack which can be ported into TinyOS.

Education

Ph.D. student in Computer Science 08/2013-now
University of Houston, Houston, TX, 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
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), 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), 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