

Fenggang WU

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Shanghai, China 200240 <http://wirelesslab.sjtu.edu.cn/~fenggang>
- RESEARCH INTERESTS Vehicular Ad-hoc Networks (VANETs), MAC/PHY Protocol Design, Signal Processing
- EDUCATION **Shanghai Jiao Tong University**, Shanghai, China
M.S. of *Computer Science and Engineering* Sept. 2010 – Mar. 2013(expected)
• Advisor: Min-You Wu GPA: 3.63/4
- Shanghai Jiao Tong University**, Shanghai, China
B.S. of *Computer Science and Engineering* Sept. 2006 – Jun. 2010
• GPA: 89.3/100
• Thesis: Coverage Problem by Wireless Sensor Networks in Cave Scenario
- PUBLICATIONS **F. Wu**, H. Zhu, J.-L. Lu, M.-Y Wu, “DEBUT: Delay Bounded Service Discovery in Urban Vehicular Networks”, to appear in Proc. *IEEE Wireless Communications and Networking Conference (WCNC'13)*, Shanghai, China, Apr. 2013. [PDF]
- F. Wu**, H. Zhu, J.-L. Lu, M.-Y Wu, “On Optimal Service Directory Selection in Urban Vehicular Networks”, in Proc. *ACM CoNEXT Workshop on Urban Networking (UrbaNE'12)*, Nice, France, Dec. 10, 2012. [PDF]
- C. Liu, J. Lu, L. Kong, **F. Wu**, Q. Wu, M.-Y. Wu, “Software-Based Green Proxy System for Wireless Networks”, *Journal of Software*, 2012,23(2):215–229. [PDF in Chinese]
- F. Wu**, “Exploiting Mobile Sinks for Energy Saving in Wireless Sensor Networks: A Survey”, Technical Report, Shanghai Jiao Tong University, Dec. 2010. [PDF]
- RESEARCH EXPERIENCES **Research on Behavior-Aware Routing in Wireless Body Area Sensor Network**
Wireless and Sensor Networks Lab, Shanghai Jiao Tong University Mar. 2012 – Oct. 2012
- Collaborated with group member in designing an efficient routing protocol that can avoid forwarding the packets to a node that is going to be blocked by the sensor wearer’s body, using motion prediction.
 - Implemented a multi-hop prototype for Wireless Body Area Network to demonstrate the effectiveness of the proposed routing protocol.
 - Carried out extensive simulation to show the efficiency of our routing protocol over existing protocols in terms of packet delay and data delivery ratio.
- Research on Optimal Selection of Service Directories in Urban VANETs**
Wireless and Sensor Networks Lab, Shanghai Jiao Tong University Sept. 2011 – Oct. 2012
- Modeled the service directory selection problem in VANETs into an optimization problem and proved its NP-Completeness.
 - Analyzed the property of the set of vehicles that can meet the service directory vehicles within the required delay bound. Revealed that the size of this set follows a normal distribution by theoretical deduction and data mining on a dataset of the GPS traces of over 4,000 operational taxis during a 2-year period. Designed heuristic iterative algorithm based on the analysis.
 - Conducted extensive trace driven simulation and showed the advantage of our algorithm over alternative ones.
- Research on Coverage Problem by Mobile Wireless Sensor Networks in Cave Scenario**
Wireless and Sensor Networks Lab, Shanghai Jiao Tong University Dec. 2009 – Jun. 2010
- Designed a system model for fast exploring and covering unknown cave topology using mobile connected wireless sensors.

- Proposed five major evaluating criteria for the cave coverage problem, namely, converging time, total walking distance, average speed, variance of the distance between neighboring nodes, and coverage rate.
- Designed four distributed algorithms to solve the coverage problem.
- Conducted comparisons among the possible solutions by simulations.

PROJECT
EXPERIENCES

Green Proxy System

Wireless and Sensor Networks Lab, Shanghai Jiao Tong University Sept. 2010 – Sept. 2011

- Collaborated with team members to construct a proxy framework that will make the wireless devices to hibernate for power-saving while keeping the services accessible by building virtual NICs and virtual images for the devices on the proxy server.
- Implemented IP phone application in MFC and Web Camera application in C# to test the power saving and service hosting performance of the Green Proxy system.

Android Mobile Phone Application

Android Application Development Challenge of Chinese College Students June. 2011 – Oct. 2011

- Collaborated with team members to develop an android application that can remind the user of daily schedule.
- Implemented back-end database with the functionality such as DB construction and maintenance.

PROFESSIONAL
ACTIVITIES

Volunteer of the 26th IEEE International Parallel & Distributed Processing Symposium (*IEEE IPDP-S'12*), May 2012.

Reviewer of IEEE Wireless Communications and Networking Conference (*IEEE WCNC'12*).

Volunteer of the 30th IEEE International Conference on Computer Communications (*IEEE INFOCOM'11*), Apr. 2011.

ACADEMIC
HONOURS
AND AWARDS

Second Prize in National Graduate Mathematic Contest in Modeling 2011

Shanghai Outstanding Graduate (**5% out of all Shanghai Graduates**) 2010

Kwang-Hua Scholarship, Academic Excellence Scholarship of Shanghai Jiao Tong University (**B-level**) 2009

Sumsung Scholarship (**1 out of 600**), Academic Excellence Scholarship of Shanghai Jiao Tong University (**B-level**) 2008

Baosteel Education Scholarship (**2 out of 600**) 2007

SJTU Scholarship for Excellent Freshman (**23th in 170,000** College Entrance Examinees) 2006

STANDARDIZED
TESTS

TOEFL: 101 **GRE:** 800(Q)+510(V)+3(AW)

TECHNICAL SKILLS

Programming Language

C, C++, Matlab, Linux Shell Script, Python, $\LaTeX 2_{\epsilon}$, SQL, Java, .NET, HTML, C#, MFC., etc.

EXTRA-
CURRICULUM
ACTIVITIES

Won the *Champion* in New Student Cup Football Contest. Honored as *Most Valuable Player*.

Finished Toray Cup Shanghai International Marathon twice.

Acted as the president of class from 2006 to 2010.

LANGUAGE

English: fluent Chinese: native Japanese and German: beginner

HOBBIES

Piano, Football, Running, Bicycling, Hiking.

REFEREES

Available on request.