

# Mei Wang

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## EDUCATION

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**University of Texas at Austin**

08/2016 – Present

*Ph.D. candidate in Computer Science*

- Supervised by **Prof. Lili Qiu** in Wireless Networking and Communications Group (WNCG).

**Shanghai Jiao Tong University**

09/2012 - 06/2016

*B.S.E. in Electronics and Electric Engineering*

*Minor in Computer Science*

- Supervised by **Prof. Xinbing Wang** in Research Center of Intelligent Internet of Things (IIoT).

## PUBLICATIONS

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- [1] **M. Wang**, Z. Zhang, X. Tian, X. Wang, “**Temporal Correlation of the RSS Improves Accuracy of Fingerprinting Localization**”, in *Proc. IEEE INFOCOM*, 2016.
- [2] X. Tian, **Mei Wang**, W. Li, D. Xu and X. Wang. “**Improve Accuracy of Fingerprinting Localization with Temporal Correlation of the RSS**”, submitted to *IEEE Transactions on Mobile Computing*, 2016.
- [3] **Mei Wang**, X. Dong, W. Li, X. Tian, X. Wang. “A method to improve the accuracy of fingerprinting localization utilizing the temporal correlation of RSS”, China, Invention Patent, 201610038359.7

## RESEARCH EXPERIENCES

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**Research on Temporal Correlation of RSS in Fingerprint-based Localization**

03/2015 - 06/2016

*Indoor localization*

*Group Leader*

- Modeled a theoretical framework on fundamental limits of fingerprint-based localization with accuracy and reliability when considering the temporal correlation of signal strength.
- Explained the mechanism that how temporal correlation of the Received Signal Strength (RSS) can correct the localization determination criteria for MLE by theoretical derivation.
- Derived experiments to analyze the temporal correlation performances on localization for time slot, distance, device and environment with corroborated results for theoretical analysis.

**Resource Allocation for Virtualized Mobile Core Networks**

01/2015 - 03/2016

*Cellular Network*

*Group leader*

- Built up Traffic Model for the activities of substantial mobile users in communication cellular network.
- Developed a synthetic approach to dynamically allocate resources in virtualized mobile core networks.
- Designed adaptive and dynamic optimization algorithms for capacity improvement in this NFV framework.

**Location Based Services (LBS) System for Foxconn Company**

07/2015 - 10/2015

*iOS Indoor Localization System*

*iOS team leader*

- Developed iOS LBS application for indoor localization including RSS scanning, Map displaying, Pedometer, Information management as well as Server communication components.
- Designed and implemented the localization determination algorithms with both online Wi-Fi RSS fingerprint based clustering method and Bluetooth offline gradient descent method.

**Dallas Cooperation Project of Ericsson and IWCT SJTU**

07/2014 - 03/2015

*Communication System*

*Core member*

- Renovated the traffic model as state machine and probability matrix for user activities in WCDMA network.
- Wrote a simulation software by C++ to model the stability distribution of user behavior in 3GPP network.
- Simulated the traffic packages and user activity translation by MATLAB to prove the stability of model.

**Crowdsourcing based Lane-level Vehicular Localization utilizing Smartphones**

09/2014 - 01/2015

*Intelligent Transportation*

*Member*

- Leveraged smartphone sensors, integrated through Kalman Filter and IMM filter to find vehicles' trajectories.
- Determined the number of lanes of the road on-time and classified the vehicle location by k-means algorithm.

## ACADEMIC PROJECTS & COMPETITIONS

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### Identification, Analysis and Warning for Large Pedestrian Flow in Urban Areas 06/2015 -06/2016

2015 3rd Chun-Tsung Program of SJTU

Leader

- Created a dynamic model for large pedestrian flow with consideration of variety of factors and integrated methodologies with localization, video analysis and RFID for urban areas.
- Warned the peak flow by reasonable thresholds of velocity, density and counting. Provided evacuation measures combining pedestrian prediction and network topology of the road.
- Verified the model and algorithms by using Legion pedestrian simulation system in some typical regions.

### A Map-Generating and Speed Optimizing Driving System

11/2014 - 11/2015

The 7th University Innovative Participate Program in Shanghai

Member

- Generated a road map and inferred traffic signal schedules, using only smartphones and a server, automatically crowdsourcing from sensors like accelerator, gyroscope and GPS modules.
- Excavated the traffic signal schedule in complex intersections by learning the traffic light deduction algorithms and traffic signal phases, with simulation result of less than 1 second error.
- Provided a recommended speed for drivers to maximize the probability that vehicles cruise through intersections in green phase without brakes so as to reduce energy consumption.

### "LoveDrop" Android Application Development

12/2014

2014 Google Girls Hackathon Party

Member

- Developed an Android application named as "Love Drop", a game application for lovers in this hackathon party, only opened for women student engineers held by Google Shanghai.
- Exploited three main functions of this LoveDrop game app – the love tree cultivation for beautiful memory, the beat vent tool game for catharsis, and a log history for dairy growth.

## SELECTED AWARDS

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|---|-----------|
| • Excellent Bachelor Thesis of Shanghai Jiao Tong University in 2016 (Top 1%)               | 2016      |
| • Fan Xuji Scholarship (Top 5%)   | 2013-2015 |
| • Academic Excellence Scholarship of SJTU (Top 10%)   | 2013-2015 |
| • National Encouragement Scholarship (Top 10%)  | 2013      |
| • Pan Wenyuan Scholarship (Top 5%)  | 2013      |
| • "Merit Student" and Excellent League Member of Shanghai Jiao Tong University              | 2013      |
| • Winning prize of 3rd Tsien Hsueshen Cup College Students technological innovation contest | 2015      |
| • First prize in Google Girls Hackathon Party   | 2014      |
| • Third prize of the fifth PRO-FACE Man-machine interface programming contest               | 2012      |

## SELECTED EXTRACURRICULAR ACTIVITIES

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### Teaching Assistant

Fall 2016

University of Texas at Austin

- Grading iOS homework and debugging programming problems for a 50-student *iOS Mobile Computing* course.

### Student Organizations and Volunteer Activities

09/2012 - 09/2015

Shanghai Jiao Tong University

- Director of Organization Department of Community Committee in SEIEE
- College Women Basketball Team / Xizhou Guqin Society / Student Choir of SJTU
- Volunteered in Shanghai International Marathon, Shanghai Science and Technology Museum, etc.

## TECHNICAL STRENGTHS

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**Programming Skills:** Python, C++, Java, Swift, Mathematica, LabVIEW, MATLAB, L<sup>A</sup>T<sub>E</sub>X