Yurong Jiang

Curriculum Vitae

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Education

Aug. 2010– May. 2016 **Ph.D.** , *Computer Science, University of Southern California*, Los Angeles, USA.
Supervised by Prof. Ramesh Govindan.

Sept. 2006– Jul. 2010 **B.S.**, *Fundamental Science Class(Academic Talent Program), Dept. of Physics, Tsinghua University*, Beijing, China, *Graduate With Honor*.

Working Experience

Jun. 2016– Present **Researcher** , *Hewlett Packard Labs*, Palo Alto, USA.

Research Interest

HP Labs *Distributed Deep Learning Systems, Video Analytics, Indoor Localization, Mobile Edge Computing*

USC *Mobile computing system, Automobile system and algorithm design, Network System Performance Analysis*

Selected Projects

Jan. 2017– Present **Online multi-camera people tracking and recognition**.
- Propose and implement a multi-camera multi-people tracking system based on deep feature and bluetooth signal
- Evaluation shows system achieves over 90% accuracy in various environment
- We are engaging with Beoing to apply our technology for their security surveillance

Jun. 2016– Jan. 2017 **Accurate BLE Beacon Localization**.
- Design and implement a system to accurately estimate BLE devices location using BLE RSSI information
- Evaluation under various scenarios reveals system' estimation error around 1.5m
- We are transfering the technology to Aruba Meridian engineering unit

May. 2015– Oct. 2015 **Website Performance Prediction**.
- Predict website performance under different cloud configuration
- We design and implement a system WebPerf for Azure which automatically captures website dependency and makes probabilistic performance prediction.
- Real websites evaluation reveals WebPerf' latency prediction error < 7% for 6 scenarios

May. 2014– Apr. 2015 **High Accuracy Localization and Tracking for Automobiles**.
- Propose and implement a vehicle localization system CARLOC incorporating various aspects of information.
- System sub-meter positioning accuracy in obstructed urban setting, an order-of-magnitude improvement over a high-end GPS device.

May. 2014– Aug. 2014 **Application-level View of Multi-stage Machine Learning Pipeline**.
- Explore and develop systems with multi-stage machine learning pipeline.
- Improve system End-to-End performance by 2.5X with < 3% accuracy tradeoff

Jan. 2013– May 2014 **Cellular PEP Investigation**.
• Analyze proxy behavior and how transparent Web proxies interact with HTTP traffic in cellular network.
• Results show that all carriers use these proxies to interpose on HTTP traffic, but these proxies do not necessarily enhance performance for mobile Web workloads.

May. 2013– Apr 2014 **Information Fusion for Automotive Apps**.
• Propose a programming framework called CARLOG (based on Datalog) to simplify the task of programming automotive event-detection apps .
• Experimental results on a prototype show that CARLOG can reduce latency by nearly two orders of magnitude relative to an unoptimized Datalog engine

Jan. 2012– Oct. 2012 **On-demand Media Retrieval from Smartphones**.
• Design and Implement an extensible framework that supports on-demand photos and videos retrieval directly from mobile devices.
• System is validated in more than 8 devices simultaneously, and achieves near-optimal query completeness with low overhead

Oct. 2010– Aug. 2011 **Cloud-Enabled Privacy-Preserving Collaborative Learning for Mobile Sensing** .
• Propose an effective solution for the privacy-preserving collaborative learning tasks.
• Approach works in highly perturbed data while sacrifice little accuracy

Publications

- Xiaochen Liu, **Yurong Jiang**, Kyu-Han Kim , "P3: Practical, Precise People Tracking and Identification across Multiple Cameras", Under submission
- Xiaochen Liu, **Yurong Jiang**, Kyu-Han Kim , "Grab-N-Go: A Solution for Cashier-free Shopping", Under submission
- Dongyao Chen, **Yurong Jiang**, Kyu-Han Kim , Kang G. Shin , "Locating and Tracking BLE Beacons with Smartphones", To Appear **ACM CoNEXT** 2017
- **Yurong Jiang**, Lenin Ravindranath, Suman Nath, Ramesh Govindan, "WebPerf: Evaluating What-If Scenarios for Cloud-hosted Web Applications", In Proc. of **ACM SIGCOMM** 2016
- Matt McCartney, Hang Qiu, **Yurong Jiang**, Fan Bai, Donald Grimm, Ramesh Govindan, Marco Gruteser, " The Benefits of Participatory Vehicular Sensing in an Urban Setting an Urban Setting ", Under Submission
- Hang Qiu, Jinzhu Chen, Shubham Jain,**Yurong Jiang**, Matt McCartney, Gorkem Kar, Fan Bai, Donald Grimm, Ramesh Govindan, Marco Gruteser, " On Effective Sensing of Vehicular Context", IEEE Transactions on Vehicular Technology(TVT) 2017
- **Yurong Jiang**, Hang Qiu, Matthew McCartney, Gaurav Sukhatme, Fan Bai, Donald Grimm, Ramesh Govindan, " CARLOC: Precise Positioning of Automobiles", In Proc. of **ACM SenSys 2015**
- Xing Xu*, **Yurong Jiang***, Tobias Flach, Ethan Katz-Bassett, David Choffnes, Ramesh Govindan, " Investigating Performance Enhancing Proxies in Cellular Networks", In Proc. of **ACM PAM 2015** (* equal contribution)
- **Yurong Jiang**, Hang Qiu, Matthew McCartney, William G. J. Halfond, Fan Bai, Donald Grimm, Ramesh Govindan, " CARLOG: A Platform for Flexible and Efficient Automotive Sensing" In Proc. of **ACM SenSys 2014**
- Peter Terlecky, **Yurong Jiang**, Xing Xu, Amotz Bar-Noy, Ramesh Govindan, " Maximizing the Relevant Diversity of Social Swarming Information" In Proc. of **SENSORNET 2014**
- **Yurong Jiang**, Xing Xu, Peter Terlecky, Amotz Bar-Noy, Ramesh Govindan, "MeidaScope: Selective On-demand Media Retrieval from Mobile Devices" In Proc. of **ACM IPSN 2013**

- Bin Liu, **Yurong Jiang**, Fei Sha, Ramesh Govindan, "Cloud-Enabled Privacy-Preserving Collaborative Learning for Mobile Sensing," in Proc. of **ACM SenSys 2012**
- Bahjat Ahmed, **Yurong Jiang**, Trevor Cook, T.L. Porta, "Quality of Information functions for networked applications", **IEEE PERCOM Workshops, 2012**
- Yong Li, **Yurong Jiang**, Haibo Su, Depeng Jin, Li Su, Lieguang Zeng, "A Group-based Handoff Scheme for Correlated Mobile Nodes in Proxy Mobile IPv6", In Proc. of **IEEE GLOBECOM 2009**
- **Yurong Jiang**, Yong Li, Liang Zhou, Depeng Jin, Li Su, Lieguang Zeng, "Optimal Probability Epidemic Routing with Energy Constraint", **IEEE INFOCOM 2010** Student Workshop
- Yong Li, **Yurong Jiang**, Depeng Jin, Li Su, Lieguang Zeng, "Optimal Probability Epidemic Routing with Energy Constraint", In Proc. of **IEEE ICC 2010**
- Yong Li*, **Yurong Jiang***, Depeng Jin, Li Su, Lieguang Zeng, "Optimal Opportunistic Forwarding Policies for Energy-Constrained Delay Tolerant Networks", In **IEEE Transactions on Vehicular Technology(TVT)**(Extensioin), page 4500–4512, 2010 (* equal contribution)

Selected Talks

Nov. 2015 **CARLOC: Precise Positioning of Automobiles**, *Sensys'15*, Seoul, South Korea.

Nov. 2014 **CARLOG: A Platform for Flexible and Efficient Automotive Sensing**, *Sensys'14*, Memphis, TN.

Professional Activities

Technical Program Committee **ACM Carsys 2017 (Co-located with Mobicom), ICC 2018**.

Reviewer **Infocom 2017, IEEE Transactions on Mobile Computing, Transactions on Network Science and Engineering, etc**.

Technical Skills

Programming Python, Java, Javascript, C/C++, MATLAB, SQL

Selected Awards

2014-2015 **Sensys Travel Grant**.

2011 **USC Annenberg Graduate Fellowship Award**, *USC*, Los Angeles, USA.

2010 **USC Viterbi Graduate Fellowship Award**, *USC*, Los Angeles, USA.

2010 **Outstanding Graduate Student of Beijing**, *Beijing, China.*

2010 **Outstanding Graduate Student of Tsinghua Univ**, *Tsinghua Univ, Beijing, China.*

2007 to 2009 **Outstanding Academic Scholarship**, Tsinghua Univ.