

Chong Tang

Contact Information

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Research Interesting

Software Synthesis
Security in Software System
Model-Driven Development

Education

University of Virginia, Charlottesville, Virginia USA
Ph.D., Computer Science, 2017 (expected)

University of Southern Mississippi, Hattiesburg, Mississippi USA
M.S., Computer Science, May 2012

Xi'an Institute of Post & Telecommunications, Xi'an, Shaanxi China
B.E., Network Engineering, June 2009

Experience

University of Virginia

Graduate Research Assistant (Aug 2012-Present)

- Mined one-year treatment data from UVA hospital. Explored a way to reduce care variations by computing cosine similarities among congestive heart failure patients.
- Built a system to dynamically evaluate large sets of SQL schemas. Reduced the evaluation time from 2 months to 5 days with a self-setup Spark cluster. Developed a synthesis technique that synthesize database schema with about 50% performance improvement than Ruby on Rails and Django.
- Performance Evaluation of a software synthesis technique. Built a JAVA EE web application to synthesize, evaluate, and select database schemas. The features include a job queue, authentication and authorization, a RESTful interface, synthesis based on a SAT solver, Pareto optimal selection, results display.

The University of Southern Mississippi

Graduate Research Assistant (Aug 2010-May 2012)

- Worked on a MAC layer algorithm based on non-uniform back-off and cross-layer bit rate adaptation to achieve opportunistic access while maintaining long term temporal fairness.
- Conducted extensive measurements of IEEE 802.11 channel variations on a Linux test bed to study link characteristics such as signal-to-noise ratio variation, delivery, mutual-information, etc.

NEC Advanced Software Technology CO. LTD (NEC-AS)

Software Engineer (July 2009 - July 2010)

- Job-Center: Maintained a distributed system consisting of networked servers in an efficient and cost-saving solution. Built middleware transferring batch files across distributed servers automatically.
- Programmable Flow Control: Built a management system for NEC's next generation switch which allows system administrators to control communication paths with customized rules, so called software-defined networking.

NEC Advanced Software Technology CO. LTD (NEC-AS)

Intern (Feb 2009-June 2010)

- Implemented a project management system that allows a manager to distribute sub-tasks to team members, and reminds task owners of unfinished tasks and tracks the progress of each task.

Publications

Yi Zhu, **Chong Tang**, Lixing Song, Shaoen Wu, Saad Biaz
Analytical and comparative investigation of 60 GHz wireless channels
Telecommunication Systems, Volume 60, Number 1, September 2015

Ke Dou, Xi Wang, **Chong Tang**, Adam Ross, Kevin Sullivan
An Evolutionary Theory-Systems Approach to a Science of the Ilities
*2015 Conference on Systems Engineering Research
(CSER 2015) Hoboken, NJ USA, March 17-19, 2015*

Hamid Bagheri, **Chong Tang**, Kevin Sullivan
Trademaker: Automated Dynamic Analysis of Synthesized Tradespaces
*36th International Conference on Software Engineering
(ICSE 2014) Hyderabad, India, May 31 - June 7, 2014 (acceptance rate: 20%, 99 out of 495)*

Chong Tang, Lixing Song, J. Balasubramani, Shaoen Wu, Saad Biaz, Qing Yang, Honggang Wang
Comparative Investigation on CSMA/CA-Based Opportunistic Random Access for Internet of Things
IEEE Internet of Things Journal, Volume 1, Issue 2, April 2014

Yi Zhu, Lixing Song, **Chong Tang**, Shaoen Wu, Biaz, S.
Analytical and comparative investigation of 60 GHz wireless channels
7th International Symposium on Wireless and Pervasive Computing, 2012

Yi Zhu, **Chong Tang**, Lixing Song, Qingmei Yao, Shaoen Wu
Cooperative Binary Relaying and Combining for Multi-hop Wireless Communication
IEEE Global Communications Conference 2012 (GLOBECOM 2012), Anaheim, CA, Dec., 2012

Chong Tang, Shaoen Wu, Honggang Wang
Measurement Based Outdoor Link Level Investigation on IEEE 802.11 channels
International Journal of Computer Theory and Engineering (IJCTE), Aug 2012

Qingmei Yao, **Chong Tang**, Shaoen Wu
Frame Fountain: Coding and Decoding MAC Frames
2nd IEEE Workshop on Multimedia Communications & Services - IEEE GLOBECOM 2011, Vol 1, pp.57-63

Hanyu Liu, **Chong Tang**, Shaoen Wu, Honggang Wang
Real-time Video Surveillance for Large Scenes
International Conference on Wireless Communication and Signal Processing, 2011

Honors and Awards

Student Travel Grant, Fourth Summer School on Formal Techniques	May, 2014
Second Class Scholarship	April, 2008
Excellent Student Cadre Scholarship	March, 2008
Second Class Scholarship	April, 2007
Outstanding Triple-A student scholarship	April, 2007
Third Class Scholarship	April, 2006

Activities

2015 Conference on Systems Engineering Research	March 17 - 19, 2015
Fourth Summer School on Formal Techniques	May 19 - 23, 2014
Student Volunteer, HotSoS 2014	April 8 - 9, 2014