Shih-Hao Tseng

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Education

Cornell University (CU), Ithaca, NY, U.S.A. Aug. 2013 - Present

PhD student (Advisor: Dr. Kevin Tang, major in Electrical and Computer Engineering)

- Relevant Coursework:

Practicum in Operating Systems, Approximation Algorithm, Convex Analysis, Functional Analysis, Statistical Inference and Decision, Stochastic Systems: Estimation and Control.

National Taiwan University (NTU), Taipei, Taiwan Sep. 2008 - June 2012

Bachelor of Science in Engineering (minor in Economics)

- GPA: 92.20/100.00; ranking 2nd in a class of 226
- Relevant Coursework:

Algorithm, Data Structure and Programming, Rf Microwave Wireless Systems, Signals and Systems, Advanced Calculus, Macroeconomics, Microeconomics, Probability and Statistics, Quantum Physics.

Research Interests

Software-Defined Networking

- Centralized control, congestion-free routing and high-frequency network updating.

Communication System

- Network dynamic model, optimization theory and algorithm.

Publications

S.-H. Tseng, E. Bitar, and A. Tang.
" Random Convex Approximations of Ambiguous Chance Constrained Programs ," in *Proc. IEEE CDC*, 2016.
A. Gushchin, **S.-H. Tseng**, and A. Tang.
" Optimization-Based Network Flow Deadline Scheduling ," in *Proc. IEEE ICNP*, 2016.
S.-H. Tseng, C. L. Lim, N. Wu, and A. Tang.
" Time-Aware Congestion-Free Routing Reconfiguration ," in *Proc. IFIP Networking*, 2016.
S.-H. Tseng, G. Choudhury, K. Xi, S. Tse, and A. Tang..
" Routing Stability in Hybrid Software-Defined Networks ," in preparation.
S.-H. Tseng, and A. Tang..
" An Efficient Local Search Approach to the Witsenhausen Counterexample ," in preparation.

A. Gushchin, S.-H. Tseng, and A. Tang.
"Optimization-Based Network Flow Deadline Scheduling," in *Proc. IEEE ICNP*, 2016.
S.-H. Tseng, C. L. Lim, N. Wu, and A. Tang.
"Time-Aware Congestion-Free Routing Reconfiguration," in *Proc. IFIP Networking*, 2016.
S.-H. Tseng, E. Bitar, and A. Tang.
"Random Convex Approximations of Ambiguous Chance Constrained Programs," in *Proc. IEEE CDC*, 2016.
S.-H. Tseng, A. Tang, G. Choudury, and S. Tse.
"Routing Stability in Hybrid Software-Defined Networks," in preparation.
S.-H. Tseng and A. Tang.
"An Efficient Local Search Approach to the Witsenhausen Counterexample," in preparation.

Honors and Awards

Winner of the AT&T SDN Network Design Challenge 2016

- Awarded to the top team providing the most efficient and cost effective routing method.

Jacobs Fellowship (CU) 2014

Studying Abroad Scholarship (Ministry of Education, Taiwan(R.O.C.)) 2013

Honorary Member of the Phi Tau Phi Scholastic Honor Society 2012

- Presented to seniors from each college in Taiwan ranking within top 1% of their department.

President's Awards (NTU) 2009, 2010, 2011, 2012

- Four-time recipient; awarded to students ranking within top 5% of their department.

Outstanding Project Award 2011

- Awarded to the top 10 teams of Cross-Strait Finals of 2011 Innovate Asia Competition (FPGA design).

Skills

Programming Languages: Proficient in C++, Python and Verilog; working knowledge of ActionScript, C, Basic, HTML, Java, JavaScript, MySQL, and PHP.
Simulation Tools: Proficient in PSpice, MATLAB, and NS-3.
Languages: Fluent in English; native in Mandarin Chinese and Taiwanese Hokkien; basic understanding of French, German, Spanish, and Japanese.

Experience

Cornell University, Ithaca, NY — Aug. 2014 - Present

Graduate Research Assistant/Teaching Assistant

- Developed a virtual SDN test framework to verify congestion-free updating properties.
- Helped teach Introduction to Probability and Inference for Random Signals and Systems.

AT&T, Middletown, NJ — June 2016 - Aug. 2016

Student Intern - Technical II

- Developed models and designed algorithms for hybrid software-defined networks.