# 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 $2^{nd}$ 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.

## 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.