

SHIH-HAO TSENG

(626) 709-6760 (Mobile)
shitseng@caltech.edu
shih-hao-tseng.github.io

PATENT

- [p1] U.S. Patent 10,411,990 B2: “Routing Stability in Hybrid Software-Defined Networking Networks,” September 10, 2019.

BOOK

- [b1] A. Tang and **S.-H. Tseng**, *Traffic Management in Computer Networks: A Systems Approach*, in preparation.

JOURNAL ARTICLES

- [j1] **S.-H. Tseng** and J. Anderson, “Synthesis to Deployment: Cyber-Physical Control Architectures,” in submission, [Online] arXiv:2012.05211.
[j2] **S.-H. Tseng**, S. Han, and A. Wierman, “In-Network Freshness Control: Trading Throughput for Freshness,” in submission, [Online] arXiv:2106.02156.
[j3] **S.-H. Tseng**, A. Tang, G. Choudhury, and S. Tse, “Routing Stability in Hybrid Software-Defined Networks,” in *IEEE/ACM Trans. Netw.*, 2019.

CONFERENCE PAPERS

- [c1] L. E. Conger and **S.-H. Tseng**, “Output-Feedback System Level Synthesis via Dynamic Programming,” in submission, [Online] arXiv:2111.00098.
[c2] C. Amo Alonso and **S.-H. Tseng**, “Effective GPU Parallelization of Distributed and Localized Model Predictive Control,” in submission, [Online] arXiv:2103.14990.
[c3] **S.-H. Tseng** and J. S. Li, “SLSpy: Python-Based System-Level Controller Synthesis Framework,” in submission, [Online] arXiv:2004.12565.
[c4] **S.-H. Tseng**, “A General Approach to Robust Controller Analysis and Synthesis,” in *Proc. IEEE CDC*, 2021.
[c5] **S.-H. Tseng**, “Realization, Internal Stability, and Controller Synthesis,” in *Proc. IEEE ACC*, 2021.
[c6] **S.-H. Tseng**, S. Agarwal, R. Agarwal, H. Ballani, and A. Tang, “CodedBulk: Inter-Datacenter Bulk Transfers using Network Coding,” in *Proc. USENIX NSDI*, 2021.
[c7] **S.-H. Tseng**, C. Amo Alonso, and S. Han, “System Level Synthesis via Dynamic Programming,” in *Proc. IEEE CDC*, 2020.
[c8] J. S. L. Li and **S.-H. Tseng**, “SLS-MATLAB Toolbox: Do-It-Yourself System Level Synthesis [Poster],” in *Proc. IEEE ACC*, 2020.
[c9] **S.-H. Tseng** and J. Anderson, “Deployment Architectures for Cyber-Physical Control Systems,” in *Proc. IEEE ACC*, 2020.
[c10] **S.-H. Tseng**, “A Generic Solver for Unconstrained Control Problems with Integral Functional Objectives,” in *Proc. IEEE ACC*, 2020.
[c11] **S.-H. Tseng**, “Perseverance-Aware Traffic Engineering in Rate-Adaptive Networks with Reconfiguration Delay,” in *Proc. IEEE ICNP*, 2019.
[c12] J. Cheng, **S.-H. Tseng**, and A. Tang, “Worst-Case Latency Performance of Load Balancing Through Distributed Waterfilling Algorithm,” in *Proc. CISS*, 2019.
[c13] N. Wu, **S.-H. Tseng**, and A. Tang, “Accurate Rate-Aware Flow-Level Traffic Splitting,” in *Proc. Allerton*, 2018.
[c14] **S.-H. Tseng** and A. Tang, “Coflow Deadline Scheduling via Network-Aware Optimization,” in *Proc. Allerton*, 2018.
[c15] **S.-H. Tseng**, B. Bai, and J. C. S. Lui, “Hybrid Circuit/Packet Network Scheduling with Multiple Composite Paths,” in *Proc. IEEE INFOCOM*, 2018.
[c16] **S.-H. Tseng** and A. Tang, “A Local Search Algorithm for the Witsenhausen’s Counterexample,” in *Proc. IEEE CDC*, 2017.
[c17] **S.-H. Tseng**, E. Bitar, and A. Tang, “Random Convex Approximations of Ambiguous Chance Constrained Programs,” in *Proc. IEEE CDC*, 2016.
[c18] A. Gushchin, **S.-H. Tseng**, and A. Tang, “Optimization-Based Network Flow Deadline Scheduling,” in *Proc. IEEE ICNP*, 2016.
[c19] **S.-H. Tseng**, C. L. Lim, N. Wu, and A. Tang, “Time-Aware Congestion-Free Routing Reconfiguration,” in *Proc. IFIP Networking*, 2016.
[c20] **S.-H. Tseng**, “Part-Time Emulation of Network Applications via Simulated Links,” in preparation.
[c21] **S.-H. Tseng**, “Network-Calculus-Based Upper Bounds on Age of Information,” in preparation.