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#### PATENT

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

# Воок

[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," submitted to *IEEE Trans. Control. Netw. Syst.*, [Online] arXiv:2012.05211.
- [j2] S.-H. Tseng, S. Han, and A. Wierman, "In-Network Freshness Control: Trading Throughput for Freshness," submitted to *IEEE/ACM Trans. Netw.*
- [j3] S.-H. Tseng, A. Tang, G. Choudury, and S. Tse, "Routing Stability in Hybrid Software-Defined Networks," in *IEEE/ACM Trans. Netw.*, 2019.

## Conference Papers

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