Sen Wang, Ph.D.

sen.zephyr.wang@gmail.com http://zephyr06.github.com/ Google Scholar

Education

2021 – 2025 **Ph.D. Computer Engineering, Virginia Tech**.
Thesis title: *Trilemma in Optimization for Time-critical Cyber-Physical Systems: Balancing Optimality, Generality, and Scalability.*

2018 – 2020 **M.Sc. Electrical and Computer Engineering, Georgia Institute of Technology**.
Thesis title: *Robot calligraphy using pseudospectral optimal control in conjunction with a novel dynamic brush model.*

2014 – 2018 **B.E. Automation Engineering, Northeastern University**.
Thesis title: *Research on Human Action Recognition Based on Three Dimensional Convolutional Neural Networks.*

Employment

2025 – now **Software Engineer.** Google LLC.

2021 – 2024 **Graduate Research/Teaching Assistant.** Virginia Tech.

2024 – 2024 **Interim Engineering Intern.** Qualcomm Technologies, Inc.

2020 – 2020 **Teaching Assistant.** Georgia Institute of Technology.

Awards

2024 **Pratt Fellowship Award**, Virginia Tech.

2020 **Best Entertainment and Amusement Paper Award Finalist** , IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**)

2015 - 2018 **Outstanding Student**, Northeastern University

2017 **Exemplary Student Leader**, Northeastern University

2016 **Liu Dajie Fang Wenyu Scholarship**, Northeastern University

Research Publications

Refereed Journal Publications

1. X. Deng, A. H. Sifat, S. Huang, **Wang, Sen**, J.-b. Huang, C. Jung, R. Williams, and H. Zeng, "Partitioned scheduling with safety-performance trade-offs in stochastic conditional dag models," *Journal of Systems Architecture (**JSA**)*, vol. 153, p. 103 189, 2024, ISSN: 1383-7621.

2. **Wang, Sen**, D. Li (co-first author), S.-Y. Huang, X. Deng, A. H. Sifat, C. Jung, R. Williams, and H. Zeng, "Time-triggered scheduling for non-preemptive real-time dag tasks using 1-opt local search," *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (**TCAD**)*, 2024.

3. A. H. Sifat, X. Deng, B. Bharmal, **Wang, Sen**, S. Huang, J. Huang, C. Jung, H. Zeng, and R. Williams, "A safety-performance metric enabling computational awareness in autonomous robots," *IEEE Robotics and Automation Letters (**RA-L**)*, 2023.

Refereed Conferences Publications

1. D. Li, **Wang, Sen**, and H. Zeng, "Safe and efficient unsignalized intersection management with breadth-first spanning tree," in *IEEE International Conference on Intelligent Transportation Systems (**ITSC**) (Accepted)*, IEEE, 2024.
2. **Wang, Sen**, D. Li, S.-Y. Huang, X. Deng, A. H. Sifat, C. Jung, R. Williams, and H. Zeng, "A general and scalable method for optimizing real-time systems," in *arXiv preprint arXiv:2401.03284*, 2024.
3. **Wang, Sen**, D. Li, A. H. Sifat, S.-Y. Huang, X. Deng, C. Jung, R. Williams, and H. Zeng, "Optimizing logical execution time model for both determinism and low latency," in *IEEE 30th Real-Time and Embedded Technology and Applications Symposium (**RTAS**)*, 2024.
4. S.-Y. Huang, J. Zeng, X. Deng, **Wang, Sen**, A. Sifat, B. Bharmal, J.-B. Huang, R. Williams, H. Zeng, and C. Jung, "Rtailor: Parameterizing soft error resilience for mixed-criticality real-time systems," in *IEEE Real-Time Systems Symposium (**RTSS**)*, IEEE, 2023, pp. 344–357.
5. **Wang, Sen**, D. Li, S.-Y. Huang, X. Deng, A. H. Sifat, C. Jung, R. Williams, and H. Zeng, "Real-time systems optimization with black-box constraints and hybrid variables," in *Workshop on OPtimization for Embedded and ReAl-time systems (OPERA) co-located with the 44th IEEE Real-Time Systems Symposium (RTSS)*, 2023.
6. **Wang, Sen**, R. K. Williams, and H. Zeng, "A general and scalable method for optimizing real-time systems with continuous variables," in *IEEE 29th Real-Time and Embedded Technology and Applications Symposium (**RTAS**)*, IEEE, 2023, pp. 119–132.
7. **Wang, Sen**, A. H. Sifat, X. Deng, S.-Y. Huang, C. Jung, J.-B. Huang, R. Williams, and H. Zeng, "A general scheduling framework for multi-objective real-time systems," in *IEEE Real-Time Systems Symposium (RTSS), Industry Challenge*, 2021, pp. 36–40.
8. **Wang, Sen**, J. Chen, X. Deng, S. Hutchinson, and F. Dellaert, "Robot calligraphy using pseudospectral optimal control in conjunction with a novel dynamic brush model," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**)*, IEEE, 2020, pp. 6696–6703.
9. **Wang, Sen**, D. Yang, C. Guo, and S. Du, "Non-intrusive load disaggregation based on kernel density estimation," in *Asia Conference on Power and Electrical Engineering (ACPEE)*, 2017.

Services

Journal Reviewer

- ACM Transactions on Embedded Computing Systems (TECS)
- Journal of System Architecture (JSA)
- Internet of Things
- Journal of SuperComputing
- IEE Embedded Systems Letters
- Automation, Control and Intelligent Systems
- Robot Learning

Conference Reviewer

- IEEE International Conference on Robotics and Automation (ICRA)

Technical Program Committee Member

- Workshop on OPtimization for Embedded and ReAl-time systems (OPERA) co-located with the IEEE Real-Time Systems Symposium