

Sen Wang, Ph.D.

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🎓 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

- 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)
- 📖 Journal of SuperComputing
- 📖 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