






# WENHAO DING

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## EDUCATION

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**Carnegie Mellon University, Pittsburgh, USA** Aug 2019 - May 2024  
*Ph.D. Mechanical Engineering*

**Carnegie Mellon University, Pittsburgh, USA** May 2021 - Dec 2022  
*M.S. Machine Learning*

**Tsinghua University, Beijing, China** Aug 2014 - July 2018  
*B.Eng. Electronic Engineering*

## PUBLICATION

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**CausalAF: Causal Autoregressive Flow for Goal-Directed Safety-Critical Scenes Generation**  
*Wenhao Ding, Haohong Lin, Bo Li, Ding Zhao*  
*Preprint arXiv:2110.13939 (Submitted to CLeaR 2022)*

**Semantically Controllable Scene Generation with Guidance of Explicit Knowledge**  
*Wenhao Ding, Bo Li, Kim Ji Eun, Ding Zhao*  
*Preprint arXiv:2106.04066 (Submitted to ICLR 2022)*

**Certifiable Deep Importance Sampling for Rare-Event Simulation of Black-Box Systems**  
*Mansur Arief, Yuanlu Bai, Wenhao Ding, Shengyi He, Zhiyuan Huang, Henry Lam, Ding Zhao*  
*Preprint arXiv:2111.02204 (Submitted to Operation Research)*

**Multimodal Safety-Critical Scenarios Generation for Decision-Making Algorithms Evaluation**  
*Wenhao Ding, Baiming Chen, Bo Li, Kim Ji Eun, Ding Zhao*  
*IEEE Robotics and Automation Letters (RA-L)*

**Context-Aware Safe Reinforcement Learning for Non-Stationary Environments**  
*Baiming Chen, Zuxin Liu, Jiacheng Zhu, Mengdi Xu, Wenhao Ding, Liang Li, Ding Zhao*  
*IEEE International Conference on Robotics and Automation (ICRA) 2021*

**Task-Agnostic Online Reinforcement Learning with an Infinite Mixture of Gaussian Processes**  
*Mengdi Xu, Wenhao Ding, Jiacheng Zhu, Zuxin Liu, Baiming Chen, Ding Zhao*  
*Neural Information Processing Systems (NeurIPS) 2020*

**Deep Probabilistic Accelerated Evaluation: A Certifiable Rare-Event Simulation Methodology for Black-Box Autonomy**  
*Mansur Arief\*, Zhiyuan Huang\*, Guru Kumar, Yuanlu Bai, Wenhao Ding, Henry Lam, Ding Zhao*  
*Artificial Intelligence and Statistics (AISTATS) 2021*

**Learning to Collide: An Adaptive Safety-Critical Scenarios Generating Method**  
*Wenhao Ding, Baiming Chen, Minjun Xu and Ding Zhao*  
*IEEE International Conference on Intelligent Robots and Systems (IROS) 2020*

**Adaptive Multi-scale Detection of Acoustic Events**  
*Wenhao Ding and Liang He*  
*IEEE/ACM Transactions on Audio, Speech, and Language Processing (T-ASLP)*

**CMTS: Conditional Multiple Trajectory Synthesizer for Generating Safety-critical Driving Scenarios**  
*Wenhao Ding, Mengdi Xu and Ding Zhao*  
*IEEE International Conference on Robotics and Automation (ICRA) 2020*

### **A New Multi-vehicle Trajectory Generator to Simulate Vehicle-to-Vehicle Encounters**

**Wenhao Ding**, Wenshuo Wang and Ding Zhao

*IEEE International Conference on Robotics and Automation (ICRA) 2019*

### **Prior Knowledge-based Regularization for Sound Event Localization and Detection**

**Wenhao Ding\***, Jingyang Zhang\* and Liang He

*Detection and Classification of Acoustic Scenes and Events Challenge 2019 (Task 3)*

### **Multi-Scale Time-Frequency Attention for Acoustic Event Detection**

Jingyang Zhang, **Wenhao Ding**, Jintao Kang and Liang He

*Interspeech 2019*

### **MTGAN: Speaker Verification through Multitasking Triplet Generative Adversarial Networks**

**Wenhao Ding** and Liang He

*Interspeech 2018*

### **Hierarchical Reinforcement Learning Framework towards Multi-agent Navigation**

**Wenhao Ding**, Shuaijun Li and Huihuan Qian

*IEEE International Conference on Robotics and Biomimetics (ROBIO) 2018*

### **Vehicle Pose and Shape Estimation through Multiple Monocular Vision**

**Wenhao Ding**, Shuaijun Li, Guilin Zhang, Xiangyu Lei and Huihuan Qian

*IEEE International Conference on Robotics and Biomimetics (ROBIO) 2018*

## **ACADEMIC SERVICES**

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**Conference Reviewer:** ICML 2022, CVPR 2022, ICLR 2022, NeurIPS 2021, ICCV 2021, ICRA 2020-2021, IROS 2020-2021, ICME 2020-2021

**Journal Reviewer:** IEEE RA-L, IEEE Access, IEEE T-ITS, IEEE TII, IEEE MM

## **WORK EXPERIENCE**

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**Bosch Center for Artificial Intelligence, Pittsburgh, USA**

*Machine Learning Research Intern*

*May 2021 - Aug 2021*

**Tsinghua University, Beijing, China**

*Research Engineer*

*July 2018 - Aug 2019*

**HongKong University of Science and Technology, HongKong, China**

*Research Assitant*

*Jan 2018 - Mar 2018*

**Chinese University of HongKong, HongKong, China**

*Research Assitant*

*July 2017 - Sep 2017*

## **AWARD**

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2019 Graduate Student Assembly/Provost Conference Funds

Outstanding Undergraduate Thesis Award

34th Tsinghua University Academic Challenge Cup (*Second prize*)

Undergraduate Academic Recommendation Program Fund (2016)

10th Tsinghua University Science and Technology Innovation Training Program “Spark”

Tsinghua University Technology Innovation Excellence Award (2016, 2017)