RoboDrive @ ICRA 2024

Workshop Agenda

- **Date:** Wednesday, May 15th, 2024
- **Time:** 1:00 P.M. to 5:00 P.M. JST (UTC+9)
- **Format:** Hybrid (On-Site and Online)
- **Venue:** Competition Hall, Pacific Convention Plaza Yokohama (PACIFICO Yokohama) 1-1-1, Minato Mirai, Nishi-ku, Yokohama 220-0012, Japan [Map]
- **ZOOM Meeting:** https://cmu.zoom.us/j/96870741709?pwd=UjI1bUhtU1k2MCt5c2Z5VFlaNnc4QT09
- **E-Mail:** robodrive.2024@gmail.com
- **Competition Website:** https://robodrive-24.github.io
- **ICRA 2024 Website:** https://2024.ieee-icra.org

Overview

The RoboDrive Challenge Workshop is a dynamic half-day event aimed at fostering discussion and showcasing innovations in autonomous driving perception under challenging conditions. Participants from academia and industry will converge to exchange ideas, present their findings, and celebrate achievements in robust driving scene perception technologies.

Schedule

This whole workshop costs about **4 hours**.

- 👤 **Host (On-Site):** Dr. Benoit R. Cottereau (CNRS & IPAL)
- 👤 **Host (Online):** Yaru Niu (Carnegie Mellon University) and Lingdong Kong (National University of Singapore)

Overview (⚠️ All timestamps are in Japan local time, UTC+9):

Start	End	Event	Duration
1: 00 P.M.	1: 15 P.M.	Opening Remarks	15 min
1: 15 P.M.	1: 30 P.M.	Spotlight Talk	15 min
1: 30 P.M.	2: 30 P.M.	Track Presentations, Part 1	60 min
2: 30 P.M.	3: 00 P.M.	Coffee Break and Networking	30 min
3: 00 P.M.	3: 40 P.M.	Track Presentations, Part 2	40 min
3: 40 P.M.	3: 55 P.M.	Spotlight Presentations, Part 1	15 min
3: 55 P.M.	4: 10 P.M.	Spotlight Presentations, Part 2	15 min
4: 10 P.M.	4: 30 P.M.	Coffee Break and Networking	20 min
4: 30 P.M.	4: 50 P.M.	Award Ceremony	20 min
4: 50 P.M.	5: 00 P.M.	Closing Remarks	10 min

The detailed schedule is planned as follows:

[1:00 P.M. - 1:15 P.M.] Opening Remarks

- Introduction of the 2024 RoboDrive challenge & the competition organizers.
  👤 [Host: Benoit] [~ 2 min]

- Introduction of the competition sponsor.

  👤 [Host: Benoit] [~ 1 min]
- Overview of the statistics of the competition and its significance.

  👤 [Host: Lingdong] [~ 12 min]

[1:15 P.M. - 1:30 P.M.] Spotlight Talk

- Introduction of the speaker.

  👤 [Host: Lingdong] [~ 1 min]
- **Title:** "Challenges and Future Directions in Safe Autonomous Driving"
- **Topic:** Insight into the evolving landscape of safety in autonomous driving.
- **Speaker:** Dr. Wenhao Ding (NVIDIA Autonomous Vehicle Research)
- **Bio:** Wenhao is an incoming Research Scientist in the Autonomous Vehicle Research Group at NVIDIA. He graduated from the Safe AI Lab at Carnegie Mellon University in 2024. His Ph.D. research focused on safety-critical scenario generation. He is interested in reinforcement learning, deep generative models, and causal discovery. During the Ph.D. study, he was interned at NVIDIA, Amazon, and Bosch Center for Artificial Intelligence.

[1:30 P.M. - 2:30 P.M.] Track Presentations, Part 1

- Introduction of the track presentation section.

  👤 [Host: Yaru] [~ 1 min]
- Each team presentation consists of a **4-minute talk** followed by a **2-minute Q&A**

[1:30 P.M. - 1:50 P.M.] Track 1: Robust BEV Detection

👤 [Host: Yaru] [~ 20 min]

- Team **DeepVision** (SheffieldC), [Presentation Online]
  - Xu Cao, Hao Lu, and Ying-Cong Chen
  - HKUST (Guangzhou), HKUST

- Team **Ponyville Autonauts Ltd.** (timkang), [Video Recording]
  - Caixin Kang, Xinning Zhou, Chengyang Ying, Wentao Shang, Xingxing Wei, and Yinpeng Dong
  - Beihang U., Tsinghua U., Hefei U. of Technology
- Team **CyberBEV** (bobyang), [Video Recording]
  - Bo Yang, Shengyin Jiang, Zeliang Ma, Dengyi Ji, and Haiwen Li
  - BUPT, Beijing U. of Technology

[1:50 P.M. - 2:10 P.M.] Track 2: Robust Map Segmentation

👤 [Host: Yaru] [~ 20 min]

- Team **SafeDrive-SSR** (Huangxl0719), [Presentation Online]
  - Xingliang Huang and Yu Tian
  - U. of Chinese Academy of Sciences, Tsinghua U.
- Team **CrazyFriday** (CrazyFriday), [Presentation Online]
  - Genghua Kou, Fan Jia, Yingfei Liu, Tiancai Wang, and Ying Li
  - Beijing Institute of Technology, Megvii Technology
- Team **Samsung Research China-Advanced Research Lab** (yf20221012), [Video Recording]
  - Xiaoshuai Hao, Yifan Yang, Hui Zhang, Mengchuan Wei, Yi Zhou, Haimei Zhao, and Jing Zhang
  - Samsung R&D Institute China-Beijing, U. of Sydney

[2:10 P.M. - 2:30 P.M.] Track 3: Robust Occupancy Prediction

👤 [Host: Yaru] [~ 20 min]

- Team **APEC Blue** (zhangby), [Presentation Online]
  - Bingyang Zhang, Lirong Zhao, Dianlei Ding, Fangsheng Liu, Yixiang Yan, and Hongming Wang
  - Beijing APEC Blue Technology Co., Ltd, Beihang U.
- Team **hm.unilab** (hm.unilab), [Video Recording]
  - Nanfei Ye, Lun Luo, Yubo Tian, Yiwei Zuo, Zhe Cao, Yi Ren, Yunfan Li, Wenjie Liu, and Xun Wu

- Haomo.ai

- Team **ViewFormer** (Ceeeb), [Video Recording]
  - Jinke Li, Xiao He, and Xiaoqiang Cheng
  - UISEE Foundation Research & Development

[2:30 P.M. - 3:00 P.M.] Coffee Break and Networking ☕

👤 [Host: Yaru] [~ 30 min]

- Engage with peers, discuss ongoing research, and explore collaboration opportunities.
- Interactive booths from sponsors showcasing the latest technologies and applications.

[3:00 P.M. - 3:40 P.M.] Track Presentations, Part 2

- Introduction of the track presentation section.
  👤 [Host: Yaru] [~ 1 min]
- Each team presentation consists of a **4-minute talk** followed by a **2-minute Q&A**

[3:00 P.M. - 3:20 P.M.] Track 4: Robust Depth Estimation

👤 [Host: Yaru] [~ 20 min]

- Team **BUAA-Trans** (twolones), [Presentation Online]
  - Ziyan Wang, Chiwei Li, Shilong Li, Chendong Yuan, Songyue Yang, Wentao Liu, Peng Chen, and Bin Zhou
  - Beihang U.
- Team **HIT-AIIA** (hitcslj), [Video Recording]
  - Yifan Mao, Ming Li, Jian Liu, Jiayang Liu, Zihan Qin, Cunxi Chu, Jialei Xu, Wenbo Zhao, Junjun Jiang, and Xianming Liu
  - Harbin Institute of Technology
- Team **CUSTZS** (danking2), [Video Recording]
  - Yubo Wang, Chi Zhang, and Jianhang Sun

- Changchun University of Science and Technology

[3:20 P.M. - 3:40 P.M.] Track 5: Robust Multi-Modal BEV Detection

👤 [Host: Yaru] [~ 20 min]

- Team **HITSZrobodrive** (HITSZ-robodrive), [Presentation Online]
  - Dongyi Fu, Yongchun Lin, Huitong Yang, Haoang Li, Yadan Luo, Xianjing Cheng, and Yong Xu
  - Harbin Institute of Technology, Guangdong U. of Technology, HKUST (Guangzhou), U. of Queensland
- Team **Ponyville Autonauts Ltd.** (timkang), [Video Recording]
  - Caixin Kang, Xinning Zhou, Chengyang Ying, Wentao Shang, Xingxing Wei, and Yinpeng Dong
  - Beihang U., Tsinghua U., Hefei U. of Technology
- Team **safedrive-promax** (HaiChen), [Video Recording]
  - Hai Chen, Xiao Yang, and Lizhong Wang
  - Tsinghua U.

[3:40 P.M. - 3:55 P.M.] Spotlight Presentations, Part 1

- Introduction of the speaker.

  👤 [Host: Benoit] [~ 1 min]
- **Speaker:** Lingdong Kong (National University of Singapore)
- **Title:** "Towards Robust 3D Perception in Challenging Conditions"
- **Topic:** Discussions on overcoming common and unforeseen challenges in sensor-based 3D perception systems.
- **Bio:** Lingdong is a Ph.D. student in Computer Science in the School of Computing at the National University of Singapore. His Ph.D. research focuses on robust and scalable 3D perception and generation. He is interested in data-efficient learning, visual representation learning, and 3D perception robustness. He has interned at NVIDIA Research, ByteDance AI Lab, OpenMMLab, and Motional.

[3:55 P.M. - 4:10 P.M.] Spotlight Presentations, Part 2

- Introduction of the speaker.

  👤 [Host: Benoit] [~ 1 min]
- **Speaker:** Ye Li (University of Michigan, Ann Arbor)
- **Title:** "Optimizing Sensor Placements for Robust Driving Perception"
- **Topic:** Innovations and methodologies of sensor placement optimization and its applications to robust driving perceptions.
- **Bio:** Ye is a Master's student in Robotics at the University of Michigan, Ann Arbor. He received his bachelor's degree from the College of Automotive Engineering at Jilin University. His research interests include autonomous driving perception and simulation, especially in challenging conditions, such as adverse weather and sensor failure.

[4:10 P.M. - 4:30 P.M.] Coffee Break and Networking ☕

👤 [Host: Benoit] [~ 20 min]

- Engage with peers, discuss ongoing research, and explore collaboration opportunities.
- Interactive booths from sponsors showcasing the latest technologies and applications.

[4:30 P.M. - 4:50 P.M.] Award Ceremony 🏆

👤 [Host: Lingdong] [~ 20 min]

- Recognition of the winners for each track.
- Recognition of the innovative solutions winners.

[4:50 P.M. - 5:00 P.M.] Closing Remarks and Acknowledgements

👤 [Host: Lingdong] [~ 10 min]

- Final thoughts and appreciation for participants and organizers.
- Acknowledgments to the sponsor.
- Announcement of next year's challenge and closing remarks.

Awards

This competition consists of 10,000 USD cash awards in total.

1st Place: Cash 5,000 USD + Certificate

- This award will be given to five awardees; an amount of **1,000 USD** will be given to each of the five tracks.

2nd Place: Cash 3,000 USD + Certificate

- This award will be given to five awardees; an amount of **600 USD** will be given to each of the five tracks.

3rd Place: Cash 2,000 USD + Certificate

- This award will be given to five awardees; an amount of **400 USD** will be given to each of the five tracks.

Innovation Award: Certificate + Extra Cash

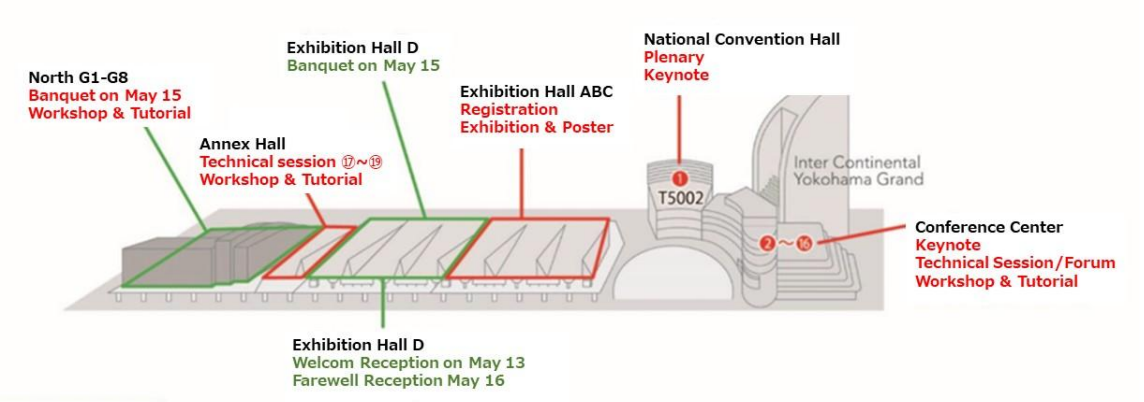
- This award will be selected by the technical committee and given to two teams.

Sponsor

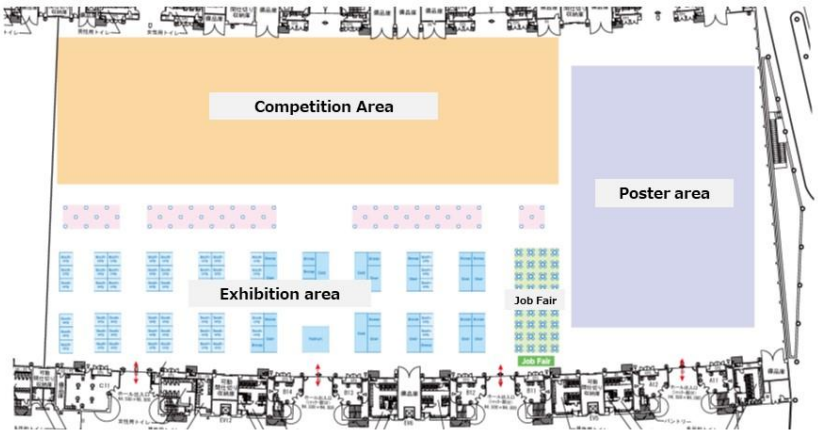
This competition has been generously supported by HUAWEI Noah's Ark Lab.

Information about the Venue

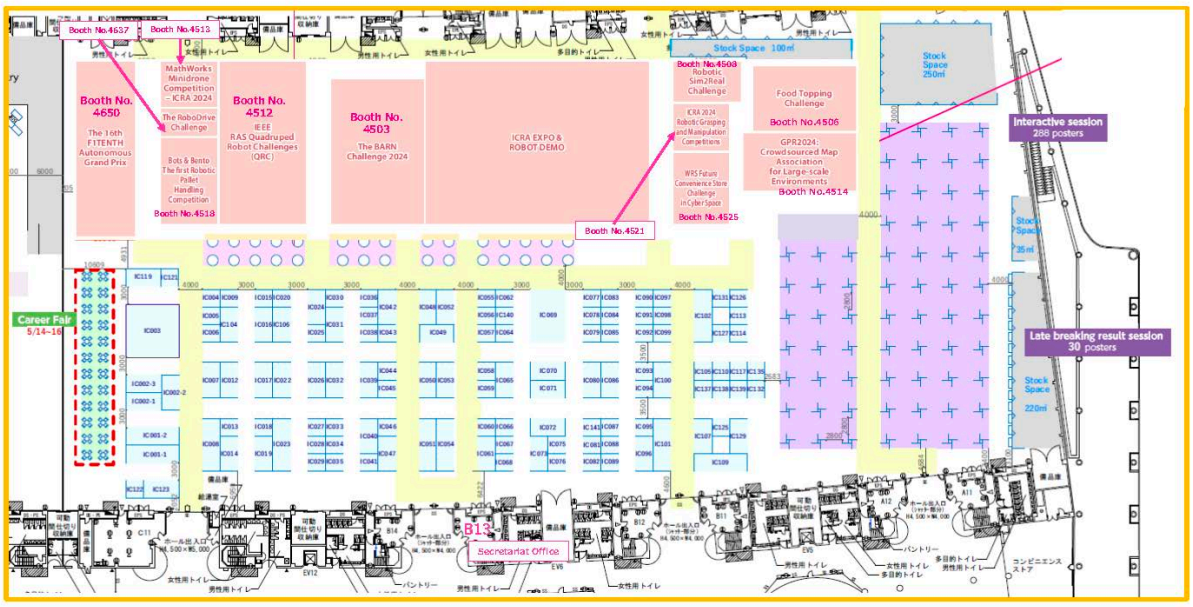
- Pacifico Yokohama, Exhibition Hall ABC
- Height: 13-19m
- Size: 13,300m^2 (approximately 2,000m^2 will be used for the competition)
- Shared Wi-Fi



Exhibition Hall ABC



Map


Booth No.4637
Booth No.4515
Booth No. 4650
The 16th FITENTH Autonomous Grand Prix
MathWorks Minidrone Competition – ICRA 2024
The RoboDrive Challenge
Bots & Bento The first Robotic Pallet Handling Competition
Booth No.4518
Booth No. 4512
IEEE RAS Quadruped Robot Challenges (QRC)
Booth No. 4503
The BARN Challenge 2024
ICRA EXPO & ROBOT DEMO
Booth No.4521
Stock Space 100㎡
Booth No.4508
Robotic Sim2Real Challenge
ICRA 2024 Robotic Grasping and Manipulation Competitions
WRS Future Convenience Store Challenge in Cyber Space
Booth No.4525
Food Topping Challenge
Booth No.4506
GPR2024: Crowdsourced Map Association for Large-scale Environments
Booth No.4514
Stock Space 250㎡
Interactive session
288 posters
Stock Space 35㎡
Late breaking result session
30 posters
Stock Space 220㎡
Career Fair
5/14-16
B13
Secretariat Office