

Dear nuScenes user,

We are happy to share that we just finalized our ICRA 2020 nuScenes challenge. Due to the ongoing travel restrictions, the Workshop on Benchmarking Progress in Autonomous Driving at ICRA 2020 was cancelled. Therefore we would like to present the results here.

## ICRA 2020 Prediction Challenge

Three student-led teams took the winning prizes for the prediction challenge. All three used encode-decoder architectures with novel input representations beyond rasterizing the scene context. For the full leaderboard, see <https://www.nuscenes.org/prediction>.

minADE 5	Prize	Method	Authors	Affiliation
1.63	1st	cxx	Chenxu Luo	The Johns Hopkins University
1.813	2nd	MHA-JAM	Kaouther Messaoud, Nachiket Deo, Mohan Trivedi, Fawzi Nashashibi	INRIA Paris - RITS Team, UCSD - LISA Lab
1.877	3rd	Trajectron++	Tim Salzmann, Boris Ivanovic, Punarjay Chakravarty, Marco Pavone	Autonomous Systems Lab, Stanford University and Ford Greenfield Labs

## ICRA 2020 Detection Challenge

This year's detection challenge featured impressive results, with 6 teams matching or outperforming the previous state-of-the-art (MEGVII's CBGS). We received a total of 92 submissions year to date. In particular, the two winning submissions both use fusion methods, which is very encouraging. For the full leaderboard, see <https://www.nuscenes.org/object-detection>.

NDS	Prize	Method	Authors	Affiliation
69.0%	Best submission	Noah CV Lab	Zichen Wang, Xiaopeng Zhang, Minzhe Niu, Chunjing Xu, Wei Zhang, Xiaolong Bai, Qi Tian	Noah's Ark Lab, EI Service & Products Department, Huawei Technologies Co. Ltd
67.5%	Best student submission	CenterPoint	Tianwei Yin, Xingyi Zhou, Philipp Krähenbühl	UT Austin
66.6%	Honorable mention	CVCNet ensemble	Qi (Claire) Chen, Lin Sun, Ernest Cheung, Alan Yuille	John Hopkins University, Samsung US

63.5%	-	DTIF	n/a	Shanghai Jiao Tong University
63.1%	-	PanoNet3D	Xia Chen, Martial Hebert	Carnegie Mellon University
63.2%	-	CRIPAC	Zerui Chen, Ke Han, Yan Huang, Liang Wang	Center of Research on Intelligent Perception and Computing, Institute of Automation, Chinese Academy of Sciences
61.6%	-	SSN v2	Xinge Zhu, Tai Wang	Chinese University of Hong Kong
60.3%	-	LRCF360	Itzik Avital, Nir Darshan	VayaVision

## Tracking Benchmark

For ICRA we did not organize a tracking challenge. Nevertheless, we received some excellent submissions that we want to show here. In total, 5 submissions match or outperform the previous state-of-the-art (StanfordIPRL-TRI). It is particularly interesting to note that both CenterPoint and DTIF are among the top four methods in both the detection and tracking leaderboards. For the full leaderboard, see <https://www.nuscenes.org/tracking>.

AMOTA	Method	Authors	Affiliation
65.0%	CenterPoint	Tianwei Yin, Xingyi Zhou, Philipp Krähenbühl	UT Austin
57.7%	IMBAfarmer09	n/a	n/a
55.9%	DTIF	n/a	Shanghai Jiao Tong University
55.8%	IMM tracking	Balakrishnan Ayyanar	Siemens ECS
55.1%	TATA	Lee Yun	n/a

Best regards,  
The nuScenes team

