



Call for Papers

IV'18 Workshop on Deep Learning Applications and Cognitive Mechanism for Autonomous Driving

June 26 – June 30, Changshu, Jiangsu, China

● Scope:

Nowadays, as autonomous driving technologies are gradually industrialized, we need to explore and develop those self-driving methods with high reliability, good security and dexterity. In order to enable the self-driving system to cope with high-noise, high-dynamic and strong-random traffic environment, the cognitive psychology of human driving process should be introduced to the understanding and processing of the sensor data, combining with the deep learning technology that plays significant roles in various fields, to develop self-driving methods.

Deep learning technology has made tremendous progress in solving the problems of traditional artificial intelligence and computer vision. With the development of on-board computing platform, more and more computing hardware of high performance and low power consumption come to available, which makes it possible to apply deep learning methods to the study of self-driving vehicles. Currently, many researches have successfully applied the deep learning technique to the problem of visual perception. However, how to use the deep learning technology to deal with heterogeneous sensor data, and how to apply deep learning methods to sensor fusing, driving policy deciding and path planning, are still in the incipient stage of exploration. The purpose of this workshop is to attract more researchers to further apply the fundamentals of deep learning technology and cognition of human brain to the development of self-driving systems, working towards autonomous methods with higher security and robustness.

● List of Topics

The topics of interest include but are not limited to:

- Deep learning for understanding the traffic scenes
- Deep learning for object detection
- Deep reinforcement learning for driving policy
- Multi-sensor fusion and target tracking
- Deep learning on embedded system
- End to end learning for self-driving cars
- Perception and feature extraction with LIDAR and RADAR

- Brain-inspired cognition for self-driving cars

- **Organizers**

Nanning Zheng, Xi'an Jiaotong University, nnzheng@mail.xjtu.edu.cn

David Liu, PlusAI, Inc., david@plus.ai

Shitao Chen, Xi'an Jiaotong University, chenshitao@stu.xjtu.edu.cn

- **Paper Submission**

Prospective authors are required to submit their manuscripts electrically through the conference Papercept submission system (<https://its.papercept.net>) and with the code “9gwft” for the workshop. Submitted papers shall not exceed six pages as a pdf file in IEEE two column format. See more detailed information at the conference website (<http://www.2018iv.org/>) to prepare your paper.

- **Important Dates:**

Full paper submission:	Feb 14, 2018
Notification of paper acceptance:	Mar 15, 2018
Final paper submission:	April 08, 2018