Innovative AI technologies for sophisticated integration of cyber and physical world

Utilization of traffic dynamics as a computing resource of AI

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Summary :

Recent development of AI/IoT/Big data technologies, e.g. Deep learning, strongly depends on the rapid progress of computer performance. On the other hand, in the coming digital society with 5th generation communication system, the ability of computer could not be sufficient for processing those big data in terms of computing resource. To overcome this difficulty, we develop a technology to exploit computing resources not only from computers but also from physical phenomena using pre-installed infrastructures.

In this project, we propose a framework of machine learning which exploit real traffic dynamics as well as various real world phenomena as a computing resource of AI. Additionally, the proposed AI technology is applied to several social issues such as traffic congestion and we compare this AI with Deep learning in terms of interpretability and computational cost.