

Modelling and AI for Integration of Cyber and Physical World

Building a fast optimization technique for simulation based on machine learning

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Summary :

In the Japanese logistics field, we are facing drastic increase of delivery demand and serious failure of its management, so called 'logistics crisis'. In this project, we establish an optimization technique for logistics simulation based on a combination of the statistical model in machine learning and the simulation model optimized by data assimilation, which is referred to as an innovative surrogate model. Due to the combinatorial structure, the innovative surrogate model enables us to realize the fast calculation for delivery planning and to provide its interpretation. This will adapt to changes of delivery demand and improve the loading rate of tracks.

