Tohoku Univ. Technology

Optimal route selection technique which flexibly changes the cost function (AI)

Technique for selecting the optimal route with high accuracy in hybrid approach

Overview

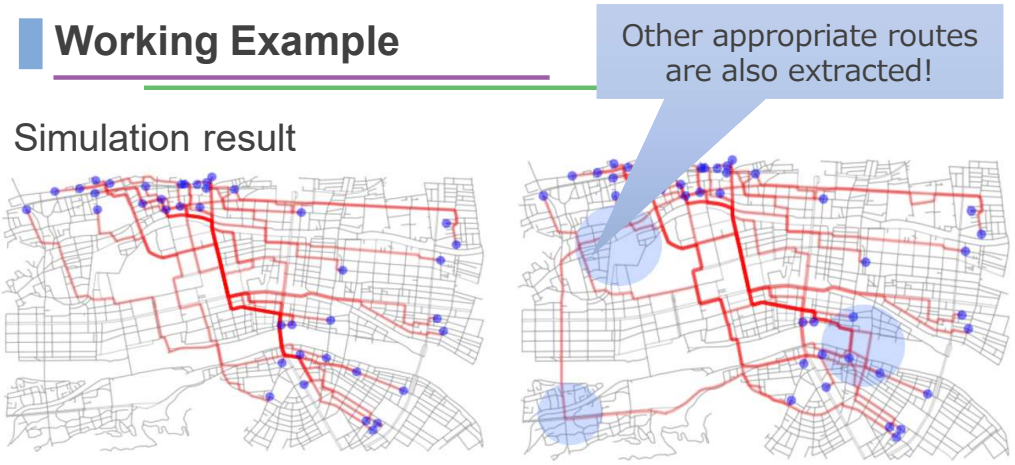
Recently, in the field of quantum computation for the selection of optimal routes for navigation, disaster evacuation, production lines, logistics, etc., the conventional method needed first to specify a cost function, then was able to obtain the optimal solution by ordinary computers and quantum annealing. However, the optimal solution at a given cost function was difficult to adapt to the ever-changing situation and to extract the optimal route. This invention is about a technique to solve the aforementioned issues by a mechanism that allows the cost function to be flexibly changed.

Product Application

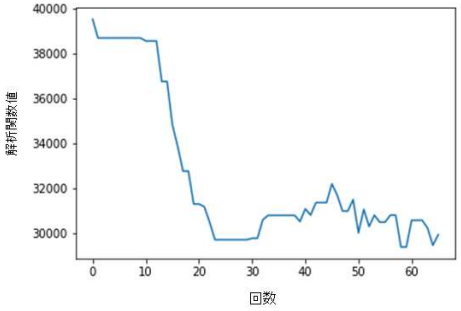
AI, artificial intelligence, machine learning, deep learning, optimization problem, neural network, quantum annealing, quantum computer, etc.

Working Example

Simulation result



Conventional method　　This invention



Accuracy of this method's optimization

0 value for the number of times in the left figure is the conventional method. The lower the value of the analysis function, the higher the degree of optimization. The analysis function including several number of times corresponds to this invention.

IP Data

IP No.	:	PCT/JP2021/009253
Inventor	:	OHZEKI Masayuki
Admin No.	:	T19-627

Contact

Tohoku Techno Arch Co., Ltd.
TEL +81 222 3049　Please visit CONTACT here