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You et al.

(54) QUANTUM COMPUTING-ENHANCED SYSTEMS AND METHODS FOR LARGE-SCALE CONSTRAINED OPTIMIZATION

- (71) Applicant: Cornell University, Ithaca, NY (US)
- (72) Inventors: Fengqi You, Ithaca, NY (US); Akshay Ajagekar, Ithaca, NY (US)
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(57) **ABSTRACT**

Technologies for a quantum/classical hybrid approach to solving optimization problems are disclosed. In the illustrative embodiment, an optimization problem is decomposed into two sub-problems. The first sub-problem is solved on a classical computer, and a result from the first sub-problem is provided to a quantum computer. The quantum computer then solves the second sub-problem based on the result of the first sub-problem from the classical computer. The quantum computer can then provide a result to the classical computer to re-solve the first problem. The iterative calculation is continued until an end condition is met.



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FIG. 1

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FIG. 3

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FIG. 4



FIG. 5

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