EVOLUTIONARY COMPUTATION FOR SERVICE-ORIENTED COMPUTING

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Service-oriented computing is becoming more and more prominent in the Internet environment with the rapid growth of Web services available on the internet. This raises issues for Web service providers such as Web service composition and location allocation, resource allocation and scheduling, etc. Furthermore, there are a number of potentially conflicting objectives (called Quality-of-Service, QoS) to be considered simultaneously in the problem such as response time, cost, reliability, safety, etc. In the era of cloud computing and Big Data, the number and complexity of Web services on the Internet is increasing rapidly. Traditional service composition approaches have come to a performance bottleneck.

Evolutionary computation has been successfully applied to many challenging real- world problems. This special session aims to solve the service-oriented computing problems with evolutionary computation techniques, covering all different evolutionary computation paradigms such as Genetic Algorithms (GAs), Genetic Programming (GP), Evolutionary Programming (EP), Evolution Strategies (ES), Memetic Algorithms (MAs), Learning Classifier Systems (LCS), Particle Swarm Optimization (PSO), Ant Colony Optimization (ACO), Differential Evolution (DE), and Evolutionary Multi- objective Optimization (EMO).

The scope of this special session includes both new theories and methods on how to solve the challenging service-oriented computing problems such as Web service composition and location allocation more effectively and efficiently. Authors are invited to submit their original and unpublished work to this special session.

The aim is to investigate in both the new theories and methods on how transfer learning can be achieved with different evolutionary computation paradigms, and how transfer learning can be adopted in evolutionary computation, and the applications of evolutionary computation and transfer learning in real-world problems. Authors are invited to submit their original and unpublished work to this special session.

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Topics

- Evolutionary Web service composition

- Evolutionary Web service work-flow optimisation

- Evolutionary Web service selection

- Evolutionary Web service location allocation

- Evolutionary Web service scheduling

- Evolutionary semantic-aware Web service composition

- Evolutionary dynamic Web service composition

- Multi-objective Web service composition

- Novel representations and search operators for Service-oriented computing

- Cooperative coevolution for Service-oriented computing

- Resource allocation in cloud computing

- Distributed Web service composition