POSTGRADUATE SEMINAR SERIES

Topic Defence Seminar

Topic Title : **Multimodal Optimization Using Multiobjective-based Evolutionary Algorithms**

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Abstract : Multimodal optimization, which seeks multiple optima simultaneously, has received much attention recently. Many real-world applications in applied mathematics, engineering, and sciences can be reduced to such an optimization problem. Solving multimodal optimization problems involves two key issues. One is how to efficiently optimize the objective function(s), and the other is how to locate more than one optimal solution in a single trial. To address these two issues, various population-based evolutionary optimization techniques and differential evolution variants have been proposed in the past two decades. The multiobjective optimization technique, owing to its success in achieving good balance between diversity and convergence, has attracted considerable interest to solve multimodal optimization problems. However, there are still limitations in the naive multiobjective optimization technique, and thus many improvements are going to be made. In my research study, 1) a comprehensive transformation between multiobjective optimization and multimodal optimization will be developed first; 2) a dynamic niching method is designed to make the transformation suit the properties of multimodal optimization problems; 3) a new fine-grained message-passing scheme will be developed to distribute our proposed approach; 4) the idea behind the transformation will be further extended and applied into other optimization problems, such as constrained optimization.

Date : 20 May 2021, Thursday

Time : 14:00 – 15:30

•Venue : Zoom Seminar Meeting ID: 990 5814 7856 PIN: 987654321

link: https://lingnan.zoom.us/j/99058147856?pwd=T2taSFlrcE1IeVNHb3ZFcUl2ejVEZz09

Language : English

*** All are Welcome ***