

Abstract:

Mimetic Computation (MC) represents one of the successful computational intelligence methodologies in current use today. Stemming from the fundamentals of both Darwinian principles of natural evolution and Dawkins' notion of a meme, the term "Mimetic Algorithm" (MA) is generally viewed as being close to a form of population-based hybrid evolutionary algorithm coupled with a learning procedure capable of performing refinements. The last few decades have witnessed a rapidly growing research interest in MA as demonstrated by the significant increase in the number of research publications on MA in the form of books, monographs, and archival articles. Despite the vast research on memetic algorithms, there remain many open issues and opportunities that are continually emerging as intriguing challenges for the field.

In the talk, Dr. Ong will share a review on the past, present and recent advances of memetic computation, and explore future directions of research in the field. Specifically, several diverse state-of-the-art concepts, theory, and practice of mimetic computation that are close to evolutionary principles will be presented. Several success of mimetic computation on real world applications will also be showcased.