

High-Performance Evolutionary Algorithms

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VENUE CS Seminar Room, Y6405
6th Floor, Yellow Zone
Yeung Kin Man Academic Building
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ABSTRACT

The success of the use of evolutionary algorithms to solve difficult computational problems has led to its continued application to problems of increasing size and complexity. The result is that standard “off-the-shelf” EAs often generate less than adequate performance both in the time required to find acceptable solutions and/or the quality of the final results. If one adopts a “no free lunch” perspective, successful applications will require the EA practitioner to match EA algorithm properties with the properties of the applications.

In this talk, I will describe such a matching framework and illustrate its use in designing high-performance EAs for a number of difficult computational problems.

BIOGRAPHY

Kenneth A. De Jong received his Ph.D. in Computer Science from the University of Michigan in 1975. He joined George Mason University in 1984 and is currently a University Professor, a Professor of Computer Science, Head of the Evolutionary Computation Laboratory, and Interim Director of the Krasnow Institute. His research interests include genetic algorithms, evolutionary computation, machine learning, and adaptive systems. He is currently involved in research projects involving the development of new evolutionary algorithm (EA) theory, the use of EAs as heuristics for NP-hard problems, and the application of EAs to the problem of learning task programs in domains such as robot navigation and game playing. He is an active member of the Evolutionary Computation research community and has been involved in organizing many of the workshops and conferences in this area. He is the founding editor-in-chief of the journal Evolutionary Computation (MIT Press), and a member of the board of ACM SIGEVO. He is the recipient of an IEEE Pioneer award in the field of Evolutionary Computation and a lifetime achievement award from the Evolutionary Programming Society.

All are welcome!



In case of questions, please contact Prof TAN, Kay Chen at Tel: 3442 8504, E-mail: kaytan@cityu.edu.hk, or visit the CS Departmental Seminar Web at <http://www.cs.cityu.edu.hk/news/seminars/seminars.html>.

