

UNIVERSITY OF MACAU
FACULTY OF SCIENCE AND TECHNOLOGY
DEPARTMENT of
CIVIL AND ENVIRONMENTAL ENGINEERING

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**"Role of Artificial Intelligence Methods in
Environmental Engineering"**

by

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Date: 22/08/2016 (MONDAY)

Time: 10:00AM – 11:00AM

Venue: E11 – 1038

Abstract

The talk will firstly introduce the current projects undertaken with a focus on environmental problems. The Artificial Intelligence (AI) can play a greater role to analyse and predict the systems behaviour especially when the systems are complex and only a partial information can be extracted. In this context, the talk will introduce various classes of AI methods being used to solve the System Identification (SI) problems. A special emphasis will be given to Evolutionary SI approach of Genetic programming (GP), which evolves the functional expressions automatically with a fewer hand-on settings. The application and development of GP will be illustrated in context to Environmental Engineering problems. The statistical analysis comprising of the error metrics, 2-D and 3-D surface plots shall be used to validate the performance of the GP models.

Biography



Dr. Akhil Garg is currently working as an Associate Professor in Department of Mechatronics Engineering at Shantou University. He received his PhD degree in Mechanical and Aerospace Engineering from Nanyang Technological University (NTU), Singapore. His main research interests includes Design for Sustainable Technologies, System Identification, Data analytics of Industry processes and Robust Optimization. He has worked jointly with Aerospace Industry Rolls-Royce Singapore for 2 years on Design optimization of finishing process. He was rated as "Far-exceeded expectation" Employee for excellent research work by NTU Singapore during the research fellow term from 2014-2015. He bagged 2nd runner up award of Poster presentation on "System Identification by a Computational Intelligence approach" At Shell Inter-Varsity Paper Presentation Contest solely sponsored by SHELL held at Malaysia in the year 2012. He is the founder of Applied Artificial Intelligence Research Group (AAIRG, www.aairg.org) involving collaborators from 12 countries. Through this research group, he have experience of supervising 10 undergraduate and 5 post graduate students. He has published 51 SCI Journals articles with 3 Journals stated as highly cited ESI articles in the year 2015. He was appointed as Chair of session "Optimization in Industrial Applications" at 27th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA-AIE) held at Kaohisung, China in year 2014. He has reviewed over 35 SCI Journals.

ALL ARE WELCOME!