



OPTiMA

ARC TRAINING CENTRE IN
OPTIMISATION TECHNOLOGIES
INTEGRATED METHODOLOGIES
AND APPLICATIONS

AI-BASED OPTIMISATION

EVOLUTIONARY SUBMODULAR OPTIMISATION

Submodular functions play a key role in the area of optimisation and machine learning as many real world problems can be stated in terms of a submodular function. Submodular functions capture problems that face a diminishing return when adding additional components to a solution. In this talk, I will give an introduction into the area of evolutionary submodular optimisation that has gained increasing attention in the evolutionary computation and artificial intelligence community. Furthermore, I will report on some results that we have obtained for optimising submodular problems with dynamic and stochastic constraints.

Frank Neumann is the leader of the Optimisation and Logistics group at the University of Adelaide and an Honorary Professorial Fellow at the University of Melbourne. His current position is funded by the Australian Research Council through a Future Fellowship and focuses on AI-based optimisation methods for problems with stochastic constraints. Frank has been the general chair of the ACM GECCO 2016 and co-organised ACM FOGA 2013 in Adelaide. He is an Associate Editor of the journals "Evolutionary Computation" (MIT Press) and ACM Transactions on Evolutionary Learning and Optimization. In his work, he considers algorithmic approaches in particular for combinatorial and multi-objective optimization problems and focuses on theoretical aspects of evolutionary computation as well as high impact applications in the areas of cybersecurity, renewable energy, logistics, and mining.



WED 27 OCT 4PM - 5PM AEST

ZOOM MEETING ID: 873 1557 5255; PASSWORD: 778635

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