

Simple Island-Model DE

Jakub Kúdela, Brno University of Technology

- Critical observation about the problem:
 - It is a 2D problem.
 - The first dimension (location) is categorical, without any meaningful distance between the values of the variables and with 35 possible locations.
- Chosen approach:
 - Use a DE, but split the population into 35 islands (for each location) and evolve them separately.
 - Drop the islands that do not seem to find good solutions early (remember, the overall limit for function calls was 5,000).
 - As each island is effectively a 1D problem, only two parameters for the DE are needed - population size for each island (P) and differential weight (F).
 - $P = 10$ and $F = 0.8$ worked well (tuning “done by hand”, could be improved).