



HUMAN INTERACTED GENETIC ALOGRITHM APPLICATION



{ PENGHUAN NI, RICH MACLIN AND PETER WILLEMSSEN } UNIVERSITY OF MINNESOTA DULUTH

ABSTRACT

By using the human interacted Genetic Algorithm(GA), we expect to have a human preferred solution for urban design problem. Human can select different method for selection, crossover, and mutation operations. When we run the human interacted GA, people can change the fitness value for some of the chromosome based on their preference. By using the feedbacks from the user, we expect to change the direction of GA.

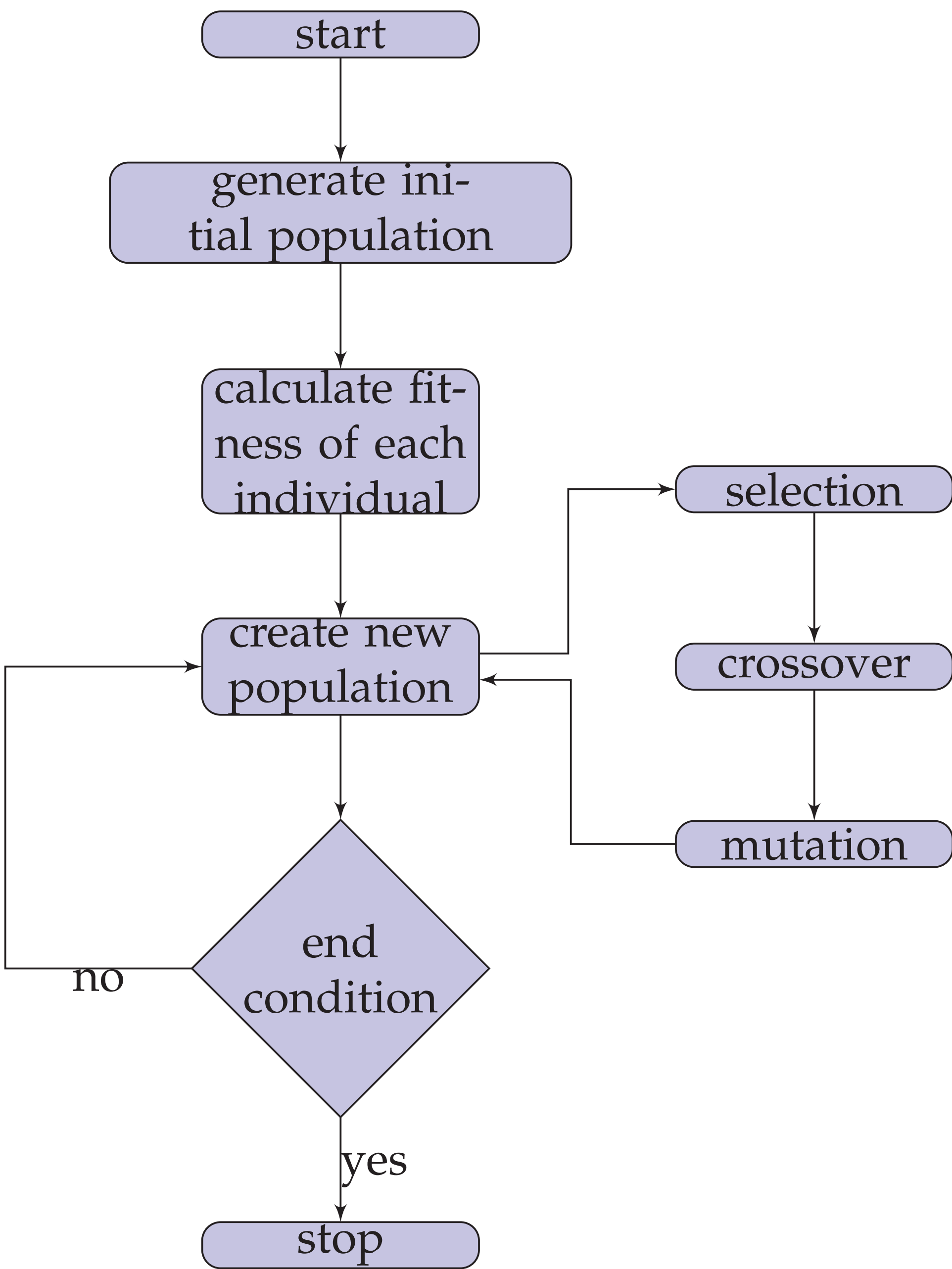
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MATERIALS & METHODS

INTRODUCTION

RESULTS 2

GA EXPLANATION



- User specified parameters: number of variables, possible value of each variable, size of population, number of generations, fitness function, crossover probability, mutation probability, selection type, crossover type, and mutation type.
- Generate new population: generate the first generation of the solution
- Create new population: applying selection, crossover, and mutation to the previous generation, and get a new population, which should improve the solution.
- Encoding method: binary encoding, use binary string to represent each variable
- Selection: selection a pair of parents and do the crossover and mutation operation on them. Support methods are roulette-wheel,
- Crossover: exchange bits of binary string between two parents based on crossover probability and produce two children. Support methods are single-point,
- Mutation: mutate bits of children’s binary strings based on mutation probability. Support methods are single-point,

CONCLUSION

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REFERENCES

[1] Laurent Magnier and Fariborz Haghighat. Multiobjective optimization of building design using trnsys simulations, genetic algorithm, and artificial neural network. *Building and Environment*, 45(3):739–746, 2010.

FUTURE RESEARCH

CONTACT INFORMATION