Cryptosystem for Providing Secured Application based on Genetic Algorithm

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***Abstract*— In this study, has shown how to design asymmetric encryption algorithm based on using two pseudorandom number generators and the features of crossover and mutation operations of Genetic algorithm (GA).the roles of pseudorandom number generators, in the proposed algorithm, help to generate dynamic representation for each character and define where to apply the crossover and mutation operations in deterministic way to produce the ciphertext;**
The proposed encryption algorithm solves the problem of exchange and distribution of private keys over the networks by using crossover operator;
The various examples and implementation of the algorithm proves that it exchanges the keys and encrypts successfully all the characters, and serves the goals of cryptography.

***Keywords:* Genetic Algorithm, Mutation, Crossover, public key, Cryptography , Deterministic Approach, Asymmetric Key Encryption , Pseudorandom Number Generators**

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