Genetic-Crypt: A Novel Encryption Approach for Secure Communication using Genetic Operations

Kalaichelvi V*, Manimozhi K, Meenakshi P, Poornima M, Sumathi A

SASTRA University, Kumbakonam, India

Abstract: Security is the primary concern in the field of Information technology. Cryptography plays an important role in the field of secure communication. This Paper proposes a novel technique for encryption and decryption. It is based on the Genetic operations like selection, crossover and mutation. For selection operation, it uses a new PRNG method called M-CSPRNG (Modified-Cryptographically Secure Pseudo Random Number Generator). This M-CSPRNG method increases the complexity for the attacker. Based on the random number only, the successive operation such as crossover and mutation is performed on the plain text. So, it will be very difficult for the attacker to generate the random number. Moreover, radix 64 conversion is used at the end. So, it will create confusion to the hacker that how the encryption and decryption algorithm is carried out.

Keywords: Genetic algorithm, PRNG, Mutation, Crossover operation and Radix 64..

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