Designing Genetic Algorithms For Research in Intelligence and Entertainment Technology

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In his 1975 book, Adaptation in Natural and Artificial Systems, Holland laid out a set of general principles for adaptation including a proposal for genetic algorithms (GA). Since then GA has been used in research across various disciplines. May versions of GA have proved to be successful in solving hard problems in science, engineering, at achtecture and music. In GA the output is a solution to some problem or the close approximation of the solution. The input to GA has two parts: a population of candidate solution and a fitness function that takes candidate solutions and assess their fitness that measures how well the program works on the desired task.GA has been utilised as part of machine intelligence as a result of the intelligent system embedded into a particular application such as <u>learning</u> System, prediction protocol and robot margition systems. A concept learning program (DeJong) is presented with both a description of the feature space and a set of correctly classified examples of the concepts, and is expected to generate a reasonably accurate description of the unknown concepts. Nordin & Furkish (2015) devised <u>GA to predict the strength of medium dennity fibrehoard</u> to skip some of the irrengh test. Heggs et al. <u>formulated Fury</u> Generic technique to addpt the learning research for <u>designing a triage</u> intelligent system: is focused on producing a robust GA as part of its intelligent frameworks.CA has also been successfully used in entertainment technology as reported in Nagatuka, K.et al (2014) when he used <u>GA to break ties in checs</u>, Nordin & Frada(2012) for using <u>GAI in designing. Studoku grifts</u> and an on-going research related to <u>Game Refinement Theory. (Iida, H.)</u> The ultimate goal of these research works is to find and define a large network of components with no central control and simple rules of operation give rise to complex collective behaviour, sphisticated information processing and adaption via learning to estingo singing .



Design Issues in GA

- Candidate solution
- Representation
- Fitness function
- Objective function
- Parameter values
- > Operators : cross-over, mutation, selection mechanism















