

GENETIC ALGORITHM TO THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE IN MODULE SYSTEM



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Abstract: - Artificial intelligence is an extremely important role in new technological progress. It represents humanity's life time dream of elevating computers beyond the realm of simple machines for the calculation and processing of data. With the incorporation of artificial intelligence, computers are able to engage in behavior similar to human thought, helping humans perform necessary tasks of cognition, theorizing, and even judgment. Genetic algorithms are a branch of AI and have been demonstrated to be fast and accurate in the process of efficiency and accuracy. Genetic Algorithms is often applied to decreasing problems for single and multiple goals'. Progress in computer hardware and software programming language has driven the development of artificial intelligence. All applications or research relevant to artificial intelligence algorithms require computer programs that meet individual constraints and individual objectives; in other words, each different problem has its own specialized computer program. Though software suites based on Genetic Algorithm already exist these have limitations in practical usage and may be unable to fully realize the effectiveness of GA. As such, this study utilizes Microsoft Visual Basic to develop an open source standard module system based on GA, allowing users to create programs which meet problem constraints within a short period of time. When standard program modules are unable to meet these requirements,

users can also customize the original source code according to particular demands. Research results demonstrate that standard module systems built on GA can help users to complete computer programs within a short period of time, and also increase the accuracy of programs.

1.INTRODUCTION

Intelligent behavior of humans includes the judgment, cognition, observation, learning, comprehension, and theorizing. If computers can display these types of intelligent behavior, they are referred to as having artificial intelligence. Computers which have artificial intelligence should display the following characteristics: 1.Symbolic expression; 2.Heuristic deductive capacities; 3.Capacity to express knowledge; 4.Ability to process incomplete, uncertain, and even contradictory data; and 5. The capacity of machine learning. Artificial intelligence is an important component of modern technological progress. It represents humanity's long-time dream of elevating computers beyond the realm of simple machines for the calculation and processing of data; with the incorporation of artificial intelligence, computers are able to engage in behavior similar to human thought, helping humans perform necessary tasks of cognition, theorizing, and even judgment .

Scientists began to research and develop intelligent machines at the end of World War II in order to

resolve military intelligence problems. In 1956, John McCarthy hosted the Dartmouth Summer Research Conference on Artificial Intelligence, which is considered the seminal event for the field of artificial intelligence . With the progress of electronic technologies and the development of computation abilities, more efficient problem-solving tools have been developed from the 1980s onwards, such as: Simulated annealing , tab search , threshold accepting , great deluge algorithm , ant colony optimization, neural network, and genetic algorithms . These forms of artificial intelligence have become mainstream methods for solving optimization problems. Inters of application, artificial intelligence has begun to be commercialized. When IBM's Deep Blue (chess computer)defeated world chess champion Garry Kasparov using an astounding calculation rate of 200 million moves per second in 1997, artificial intelligence gained even more notice. Artificial intelligence has since become a popular research topic.

2. PROPOSED WORK

As Artificial Intelligence is an extremely important aspect of modern technological progress. and genetic algorithms are the branch of AI, In existing system Genetic Algorithms have limitations in practical usage and unable to meet these requirements.

Research results demonstrate that standard module systems built on GA can help users to complete computer programs within a short period of time, and also increase the accuracy of programs.

THE GENETIC ALGORITHM

Genetic Algorithm module is to calculate appropriate Manning coefficients for down friction inestuaries. Manning's coefficient is a key parameter represents the resistance to the flow of water in the equation of motion. This coefficient reflect the variations of the physical and geometrical characteristics of the watercourse. The Manning in estuaries typically varies within a range between 0.011 and 0.06 m^{1/4}s. In case of numerical models where the problem domain is divided into elements the resistance to the flow within each discretised section is given by a specific value of the Manning's coefficient. Thus, calibrating the Manning coefficient in a hydrodynamic model should result in a set of parameter values that gives a realistic simulation of the estuarine hydrodynamics.

3. RESULTS

In this application which is being designed will overcome the two problems that an existing system has in it i.e. first being the credentials of the user being accessed even though the encryption technique is used and second being the problem of accessing the user data even without the proper log-on credentials of the user. So here in this

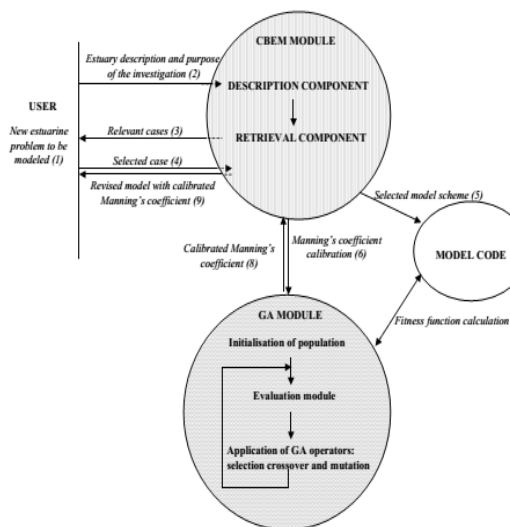


Figure 1. Architecture of the AI system for estuarine model design

application we are implemented a new technique to over come these problem and we are getting the users whoever registered in that site and we can send any information to the users whom we want to send and as that of the process we are encrypting and sending the data for to view the data whatever sender send to receiver he need the signature of the user if he don't know the signature he can't git that message or file data after enter the sender signature only receiver can get the original content file which and one more technique we are implemented as if the user log-in any one of the system in network area if he forgot to log-out that and again he came to log-in another system it's not possible to the users or if user log-in one system at that time if some one try to hack and if he try to open others profile he can't able to open that page like that we are providing security to the users based on their profile credential details and that networking IP addresses based through these ways we are providing security to the users data and as well as their cred-entail information through this we can stop the users may not need more user-id and more accounts in network areas and through this users can stay freely and without tension and no more of attacks in network location and as well as the security to the data whatever user send to receiver like this all things we are provided in this paper for the user to get more closer in the network.

4. CONCLUSION

This paper presents an AI system for the design of estuary models. This system is based on the combination of principles of case based reasoning and genetic algorithms. In particular, the use of evolutionary approach for calibrating hydrodynamic models is discussed. A robust methodology for optimising the unmeasurable friction coefficients in an estuary has been

developed using the GA approach and discipline-specific knowledge. The classical genetic operations such as the initialisation of the population, crossover and mutation are modified to incorporate practical information available for estuarine model calibration. The preliminary results obtained for the Upper Milford Haven estuary indicate the feasibility and effectiveness of the GA based calibration under realistic conditions. The comparison with a trial and error calibration procedure demonstrates that the GA approach hybridised with a knowledge evaluation system can provide a superior optimisation process for complex hydro-environmental problems. Additional tests are planned in order to verify the applicability of the present GA approach to other types of problems encountered in estuary modelling.

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