

Predictive Modeling Using Real-time Data

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The purpose of this article is to present the GenIQ Model as an effectual predictive model for real-time data. [1] GenIQs engine belongs to the subfield of evolutionary computation known as genetic programming (GP). [2] GP is a probabilistic algorithm that iteratively **transforms** a set (**a population**) of models into a *new* generation of the population that has **offspring models** (probabilistic better than their *parent* models of the current population). [3, 4, 5] When a population is complete, the most recent real-time data are input into the GenIQ-GP process to evolve the *next* generation of the population. The process of inputting the latest real-time data is terminated with the (best) generation of the population, in that **no improvement** is obtained. [6] I present a case study on online stock market trading.

References and Footnotes:

1. [What is the GenIQ Model?](#)
2. [What is Genetic Programming?](#)
3. **Transforms** – by using biological-like (genetic) operators: reproducing, mating and mutating.
4. **A population** consists of a number of models. The number (aka, the population size) is set by the data modeler at the onset of running a GP application. It cannot be changed once the application has started. If good models are not produced, the data modeler initially focuses on adjusting the population size based on various rules of thumb, or his/her experience.
5. **Offspring models** – new models produced by the genetic operators.
6. **No improvement** – based on the data modeler's evaluation of the *best-of-generation* models.