

Using Artificial Neural Networks and Function Points to Estimate 4GL Software Development Effort

G.E. Wittig, G.R Finnic

Abstract

The value of neural network modelling techniques in performing complicated pattern recognition and nonlinear estimation tasks has been demonstrated across an impressive spectrum of applications. Software development is a complex environment with many interrelationships. Accurate forecasting has proved difficult since many of these interrelationships are not fully understood. An attempt to capture the significant attributes of the software development environment to enable improved accuracy in forecasting of development effort is presented. The data for this study was gathered from commercial 4GL software development projects, across a large range of sizes. As is typical of software developments, the range in productivity and other development factors in the data set is also large, accentuating the need for the neural network model. The neural network model predictions were reasonably accurate in comparison with other published results, indicating the potential of the use of this approach.

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