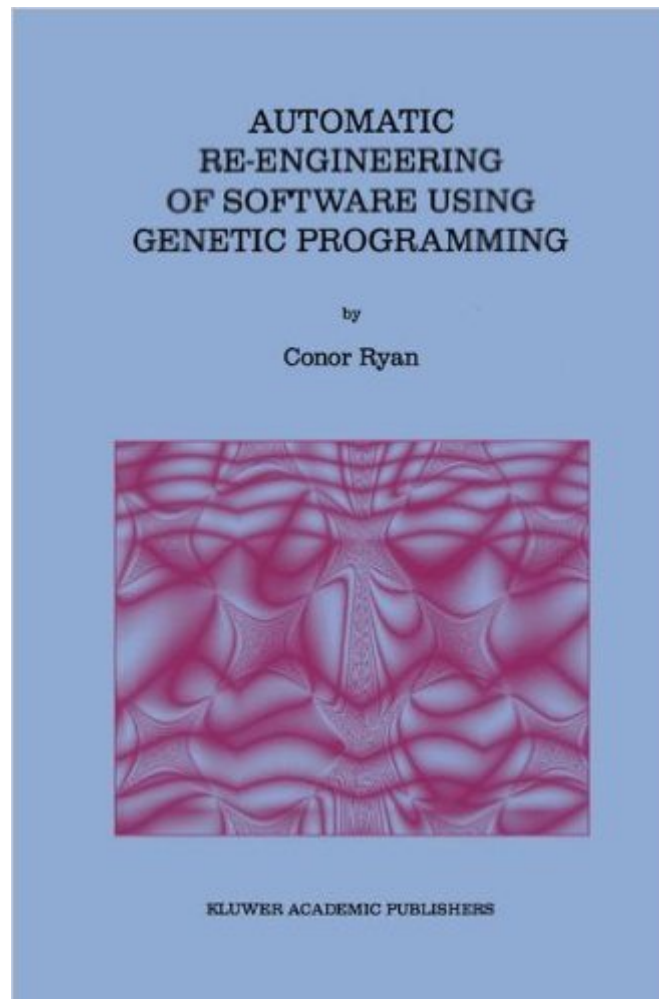


The book was found

Automatic Re-engineering Of Software Using Genetic Programming



Synopsis

Automatic Re-engineering of Software Using Genetic Programming describes the application of Genetic Programming to a real world application area - software re-engineering in general and automatic parallelization specifically. Unlike most uses of Genetic Programming, this book evolves sequences of provable transformations rather than actual programs. It demonstrates that the benefits of this approach are twofold: first, the time required for evaluating a population is drastically reduced, and second, the transformations can subsequently be used to prove that the new program is functionally equivalent to the original. Automatic Re-engineering of Software Using Genetic Programming shows that there are applications where it is more practical to use GP to assist with software engineering rather than to entirely replace it. It also demonstrates how the author isolated aspects of a problem that were particularly suited to GP, and used traditional software engineering techniques in those areas for which they were adequate. Automatic Re-engineering of Software Using Genetic Programming is an excellent resource for researchers in this exciting new field.

Book Information

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Customer Reviews

A clear non-mathematical in depth description of a new idea for automatically transforming (re-engineering) existing programs to run on parallel computers. There are several low level transformations which change individual lines of code or FOR loops. Existing programs contain many lines of code so the number of possible combinations of transforms and code lines is huge.

Ryan shows Darwinian natural evolution can be used to in the computer to automatically find appropriate transformations and where to apply them to the program to produce parallel code which works exactly like the original program but FASTER.

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