

**Practical  
Handbook of**

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***GENETIC  
ALGORITHMS***

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**New Frontiers  
Volume II**

**Edited by Lance Chambers**



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## PREFACE

This is the second volume of the *Practical Handbook of Genetic Algorithms*. In the first volume we covered a number of GA applications. This required code segments for a range of differing applications and problems encountered in the coding of GAs. These code examples were offered in a number of differing languages so that people with differing language proficiencies could benefit.

This second volume covers an array of new areas for the applications of GAs, arenas not seen before or if seen only glimpsed occasionally. The reasons for selecting these particular undertakings we so that problems particular to these areas could be canvassed. These new applications each have problems that are unique and require unique approaches. This book covers these approaches and offer a springboard for the theorist or practitioner to continue their endeavors.

The field of genetic algorithms is growing and developing so fast that it is impossible to remain up-to-date in all areas in which it is applied. This volume also demonstrates some of the leading applications in the field as of the date of publication. With this information on hand it becomes possible for researchers and practitioners to gain a glimpse of the wide array of problem types within which GAs can successfully operate and to consolidate any thoughts they may have had as to the value of continueing down a GA-centered path.

This collection, like the last, demonstrates the significant ability of GAs to solve new and different problems in ever more elegant ways. It is hoped that this work will, as has the first volume, prove to be of great value to all those who read and refer to it.

I feel emboldened by the people I have met and communicated with during the development of this work. We all share a common language, understanding, and faith in the capacity of GAs, either alone or in a hybridized environment, to generate significant real value in our world.

We are still, and will continue to be, confronted with significant quantitative and qualitative problems that need to be solved to further improve our quality of life. It may sound rather far-fetched and grandiose to attribute further advances of great significance to the study and use of genetic algorithms but I don't believe that these statements are at all at odds with what will become reality. We are still at the frontiers of understanding the impacts of Evolutionary Computation in all its forms and manifestations.

The new sciences of which Evolutionary Computation and hence GAs is one, from the select fields of Nanotechnology, AI, Fuzzy Systems, Complexity, Catastrophe, and Chaos Theories, are all in the early gestation stages. If there were ever a new light for science today it is, in my opinion, led by those on this short list.

Read the books, talk to the people, and imagine what is possible.

We can achieve a brilliant future if we can develop and apply the right tools

to the right problems. I hope this book will assist in setting people onto a path that will allow each to contribute what they are able towards achieving that hoped for future.

Any errors, omissions, and mistakes are purely my fault and no other party can or should be held accountable.

Have fun reading it, I know I did in editing it.

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