Foundations of Genetic Programming

FOGP'99, the Foundations of Genetic Programming Bird-of-a-feather workshop at the Genetic and Evolutionary Computation Conference (GECCO-99) will be held on 13 July 1999. The discussion papers follow this preface.

PREFACE

The theory in evolutionary computation has led and can lead to a deep understanding of evolutionary algorithms. This understanding is necessary to be able to propose better algorithms, problem representations, operators and fitness functions, and to understand the fundamental limits of search/optimisation. Developing a theory for genetic programming (GP) is therefore of paramount importance to lead this field in the right direction. Also, the theory developed for GP may have lead to breakthroughs in the theory of other evolutionary algorithms based on variable size representations. Unfortunately, producing useful theoretical results in genetic programming has been very difficult, although the situation is improving now.

This booklet includes the proceedings of the Foundations of Genetic Programming (FOGP'99) workshop held at the Genetic and Evolutionary Computation Conference (GECCO'99) in Orlando, Florida. The aims of the workshop are: to identify the reasons why GP theory is difficult to obtain, to brainstorm on what we can do to remove these obstacles, and to specifically map out the most promising directions in which the community should start moving.

From the diverse papers submitted in April 1999 we have selected those which we feel best reflect the topic of the workshop and contribute to the better understanding of genetic programming.

While the authors have agreed to the distribution of their papers, they retain all rights to their work.

Workshop Web Site:

`http://www.cwi.nl/~bill/fogp`

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