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Backprop Local Search EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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Genetic Algorithm EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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Application to Yeast Identification EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

Computation EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

Mutation, and Recombination EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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Set Problem EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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Location of Base Stations in Cellular Networks EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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Car Sequencing Problems EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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Local Search Meta-Heuristics EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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the State-of-the-Art EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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Grammatical Evolution EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

Description Languages EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

Sensing Images EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

Scattering Problems EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and

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Algorithms EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

using GP EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf applications optimisation technique. When evolving imaging operations, the processing time increases dramatically. This work describes a system using a caching mechanism which reduces the number of evaluations needed by up to 66 percent, counteracting the effects of increasing tree size. This results in a decrease in elapsed time of up to 52 percent. A cost threshold is introduced which can guarantee a speed increase. This caching technique allows GP to be feasibly applied to problems in computer vision and image processing. The trade-offs involved in caching are analysed, and the use of the technique on a previously time consuming medical segmentation problem is shown.

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Programming for Image Segmentation EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf applications

Detection EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf applications

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Distributed Interactive Genetic Algorithm EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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Fitness Functions for Pleasant Music EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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Environments EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf

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EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM David W. Corne and Jens Gottlieb and Agnès Guillot and Emma Hart and Colin G. Johnson and Elena Marchiori and Jean-Arcady Meyer and Martin Middendorf applications which is the use of domain specific control knowledge to help guide a domain independent search algorithm. This paper presents L2Plan which represents this control knowledge as an ordered set of control rules, called a policy, and learns using genetic programming. The genetic program's crossover and mutation operators are augmented by a simple local search. L2Plan was tested on both the blocks world and briefcase domains. In both domains, L2Plan was able to produce policies that solved all the test problems and which outperformed the hand-coded policies written by the authors.