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Meta-Genetic Programming: Co-evolving the Operators of Variation

## Electrical Engineering & Computer Sciences

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Abstract: The standard Genetic Programming approach is augmented by co-evolving the genetic operators. To do this the operators are coded as trees of indefinite length. In order for this technique to work, the language that the operators are defined in must be such that it preserves the variation in the base population. This technique can varied by adding further populations of operators and changing which populations act as operators for others, including itself, thus to provide a framework for a whole set of augmented GP techniques. The technique is tested on the parity problem. The pros and cons of the technique are discussed.



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**Key Words:** genetic programming, automatic programming, genetic operators, co-evolution

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