**Putting Polyhedral Loop Transformations to Work**

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## Abstract

We seek to extend the scope and efficiency of iterative compilation techniques by searching not only for program transformation parameters but for the most appropriate transformations themselves. For that purpose, we need to find a generic way to express program transformations and compositions of transformations. In this article, we introduce a framework for the polyhedral representation of a wide range of program transformations in a unified way. We also show that it is possible to generate efficient code after the application of polyhedral program transformations. Finally, we demonstrate an implementation of the polyhedral representation and code generation techniques in the Open64/ORC compiler.