

An experiment with the fourth Futamura projection

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We have experimentally validated the theoretical insight, that a compiler generator is a generating extension of a program specializer, by showing that an existing offline partial evaluator can perform the fourth Futamura projection. Specifically, an online and an offline partial evaluator for an imperative flowchart language were transformed into two new compiler generators by Romanenko's classical partial evaluator Unmix. The two partial evaluators are described, as is a novel recursive method for polyvariant specialization. These results strongly indicate that existing partial evaluation techniques can be put to work on several new applications.