

2018 Research Interest/Project Ideas

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Decompilation for Performance Portability

In recent work, we have developed novel techniques for static analysis, based on decompiling low-level imperative programs into higher-level functional representations, based on collective forms and a novel structured heap abstraction

(<https://www.cs.purdue.edu/homes/rompf/papers/essertel-draft2017b.pdf>). In this project, we plan to apply these techniques to the problem of porting highly optimized code from one architecture to another, which would normally require a tedious manual rewrite by a team of skilled experts.