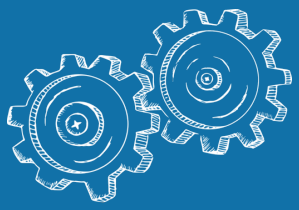

Energy-Optimization Compiler Extension

Advisor: **Carina Fiedler**

Motivation

Optimizing compilers such as gcc aim to produce binaries that are fast or small. The goal of this project/thesis is to implement a gcc compiler extension that optimizes for low power consumption. We will evaluate the effectiveness and tradeoffs of the code that the optimized compiler produces.

Goals and Tasks

- Get familiar with compiler optimizations and energy measurements.
- Write a compiler extension that optimizes energy cost.
- Evaluate the performance and energy efficiency of compiled programs.

Literature

Courses & Deliverables

☑ **Master Project**
Project code
Report
Presentation

– OR –

☑ **Master's Thesis**
Initial presentation
Project code
Thesis (60+ pages)
Final presentation

Recommended if you're studying

☑ CS ☑ ICE ☑ SEM

Prerequisites

- Interest in compilers, energy efficiency
- Programming (C/C++)

Advisor Contact

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