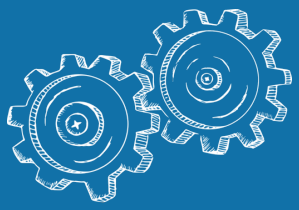

Energy-Optimization Compiler Extension

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

- ☑ **Introduction to Scientific Working**
  Short report on background
  Short presentation
- ☑ **Bachelor Project**
  Project code and documentation
- ☑ **Bachelor's Thesis**
  Project code
  Thesis
  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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