

CS 4098D Project Part 1

Energy Optimisation in Heterogeneous ISA CMPs

Heterogeneous multicore architectures have the potential for high performance and energy efficiency. These architectures may be composed of small power-efficient cores, large high-performance cores, and/or specialized cores that accelerate the performance of a particular class of computation. In such a way of execution, the program state has to be migrated from one architecture to another. However, the system may not be energy efficient in this case and even peak power may also cross the threshold value.

Our work with this project will explore different machine learning based scheduling algorithms to schedule the program on a core so that the energy consumption can be reduced. We will be examining this for different granularities of a program. We would also be using compiler optimisation techniques for the same.

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