Modern processors are subject to aging effects that harm the health of the chip and endanger correct functioning. These aging effects damage not all parts of the processor equally. Some parts are more susceptible than others. One crucial step in increasing the lifetime of processors is being able to estimate the aging for the different circuits of the processor. Traditional approaches use expensive simulations, which become more and more infeasible with increasing complexity of modern processors.

We want to use Machine Learning techniques to learn features of circuits that allow to estimate the aging properties. We work with recent machine learning frameworks like sklearn, caffe, keras, tensorflow, and CuDNN. The framework to get labelled training data is already available and capable of creating huge amounts of training data, which allows the focus of this work to be purely on the learning itself.

Skills required for the Thesis
- Programming skills
- Experience with Machine Learning
- Knowledge of aging effects in processors is NOT required

Start Date
Immediately or within a couple of months.

Language
The thesis can be written and presented in either English or German.

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