

A Survey of Feature Selection Approaches for Scalable Machine Learning

by

Steffi Melinda

Submitted to the IT4BI Consortium and
Department of Computer Science and Electrical Engineering
in partial fulfillment of the requirements for the degree of

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Abstract

In this thesis, I designed and implemented a compiler which performs optimizations that reduce the number of low-level floating point operations necessary for a specific task; this involves the optimization of chains of floating point operations as well as the implementation of a “fixed” point data type that allows some floating point operations to simulated with integer arithmetic. The source language of the compiler is a subset of C, and the destination language is assembly language for a micro-floating point CPU. An instruction-level simulator of the CPU was written to allow testing of the code. A series of test pieces of codes was compiled, both with and without optimization, to determine how effective these optimizations were.

Thesis Advisor: Christoph Boden

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