Final Year Project Report

Formalising Alternative Models of Computation in Isabelle

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Abstract

The goal of this project was to implement and formalise alternative models of computation inside hte proof assistant Isabelle, and then to make use of this to assist in proving various results about these models. In particular it focuses on Cellular Automata, and certain more computationally simple variants.

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Bibliography

[1] Jian Xu, Xingyuan Zhang, and Christian Urban. "Mechanising Turing Machines and Computability Theory in Isabelle/HOL". In: *Interactive Theorem Proving*. Ed. by Sandrine Blazy, Christine Paulin-Mohring, and David Pichardie. Berlin, Heidelberg: Springer Berlin Heidelberg, 2013, pp. 147–162. ISBN: 978-3-642-39634-2.