

[CPSC 539B] HW5

Dependently Typed Assembly Language

March 13, 2019

1 Critique

The paper builds on TAL, however, adding it adds to TAL by enabling important compiler optimizations such as run-time array bound check elimination and tag check elimination. This enables representing sum types at assembly level.

The authors introduce a separation between ordinary run-time expressions and a family of index expressions. The reason why they need to do so, is clear to me. However, how they do it is a little unclear. Comparing the syntax to TAL, there have been a lot of introductions in DTAL. However, I don't think I understand the technical details of the paper well.

It is easy to grasp the high level concept of the paper in one read. However, I haven't understood the type equality and coercion concepts well. I also require a little more insight into dependent type systems, in order to grasp the paper well.

Hopefully after the class discussion I will have a much more clear view of the paper.