Bringing Deep Learning to IoT Devices Using Higher Order Logic(HOL)/Scala/Haskell/JVM as an Informatics Platform – A Novel Suggestion in the Context of Hardware/Software/Firmware Co-Design Approaches.

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Abstract :

As explained in the TITLE mentioned above,it is very much inspiring to probe the frontiers
of IoT & its application domains in the context of science & technology using HOL/Scala/Haskell/JVM
To the best of our knowledge,this is one of the pioneering efforts in this promising,challenging &
inspiring aspects of DEEP LEARNING.

index words: Deep Learning/AI/Machine Learning/HOL/Scala/Haskell/JVM/IoT

I. Introduction & Inspiration :

"Deep learning is well known for solving seemingly intractable problems in computer vision and natural language processing, but it typically does so by using massive CPU and GPU resources. Traditional deep learning techniques aren't well suited to addressing the challenges of Internet of Things (IoT) applications, however, because they can't apply the same level of computational resources". [ARTIFICIAL INTELLIGENCE - Bringing deep learning to IoT devices published on 01.30.2018 by Dan Sullivan] - *Source : http://samsungnext.com/whats-next/deep-learning-iot/*

https://www.computerweekly.com/news/450431977/How-machine-learning-is-applied-in-industrial-IoT

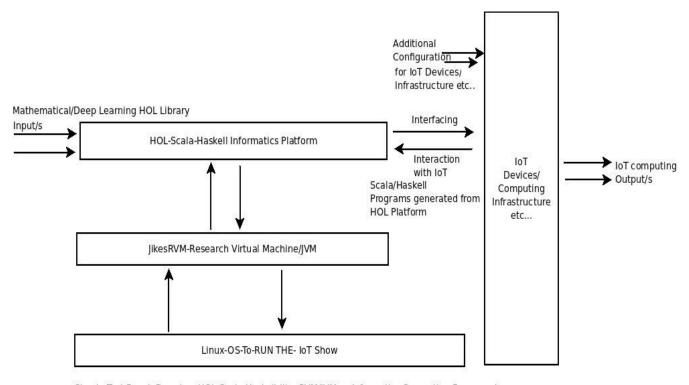*https://www.toshiba-sol.co.jp/en/articles/tsoul/20/001.htm*

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https://mmhaskell.com/blog/2017/8/7/the-future-is-functional-haskell-and-the-ai-native-world

https://www.iot-now.com/tag/scala/

It is in this context,that the author decided to try,design and implement HOL based Hardware/Software/Firmware co-design approaches,hence the justification of our TITLE.

II. Informatics Framework Design & Implementation :

Simple Test Bench Based on HOL-Scala-Haskell-JikesRVM/JVM as Informatics Computing Framework

Figure I – Approximate Informatics Framework Supporting Our Interesting Idea.

III. Concluding Remarks :

Simple demonstration of Deep Learning aspects using HOL was presented with a block diagram approach.

IV. References & Additional Information on Mathematics & Software Used :

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V. Acknowledgement/s :