

# **Haskell + Rust w.r.t Probing Advanced Medical Imaging Using QRNG + Machine Learning [ML] + Minsky Machines + NLP + SVMs + Hardware + Software + Firmware + Future IoT Informatics + HPC + LLVM -> Exploring Haskell + Automatic Differentiation [AD] With Multi-Disciplinary Integrated R&D Approach Using : -> e.g Photon + Wasm & Other Computer Vision Libraries.**

Nirmal - Informatics R&D - USA/UK/Israel/BRICS Group of Nations.  
Contact\_info - hmfg2014@gmail.com

## **[I] Main Idea + Inspiration + Introduction :**

As mentioned above we have an interesting approach to probe Medical Images with State of the Art Algorithms. Functional Programming Languages like Haskell + RUST will certainly give you an edge in this highly dynamic and challenging domain of Medical Imaging.

<https://www.ericsson.com/en/future-technologies/future-iot> -> Very much interesting.

## **[II] R&D Informatics Framework Using Rust + AI + IoT Systems -> To Test Medical Images & Imaging Algorithms :**

A SIMPLE SUGGESTION USING RUST + HASKELL -> TO PROBE MEDICAL IMAGES w.r.t -> RASPI + SMART DEVICES + IoT + HPC HETEROGENEOUS SYSTEMS

Haskell + Rust interfacing w.r.t currys - Probe MRI Scans with Machine Learning + Computer Vision Algorithms  
-> RASPI + Smart Devices + IoT + HPC Systems.  
-> MongoDB -Rust/Haskell/Java/Python  
-> BIG DATA Analysis for Further R&D Analysis.  
-> Monitor the Entire Process Using QRNG DEVICES + Related Services ->  
-> Testing in Progress @ the TIME of Submission.  
Approximate Idea + Suggestion -> Please read our online notes on Vixra.org + github for more information.  
[ Figure I - Algorithm I - Haskell + Rust Advanced Medical Imaging & Informatics Framework ]  
<https://www.vixra.org/pdf/1709.0376v1.pdf>

## **[ Algorithm I - Rust + Haskell -> R&D Framework -> To Probe Medical Images - Short Technical Notes ]**

**\*Please make a Note : Not all the technical details are presented here. Please check & satisfy yourselves.  
Approximate Suggestion Only. Thanks for understanding.**

## **[III] Interesting & Useful References :**

[a] <https://github.com/tejdnk-2019-ShortNotes> - **Lots of Examples - Please Read - Thanks.**

[b] <https://github.com/tejdnk-2019-ShortNotes/2021-Nir-Informatics> -> **Good Examples Using RUST & Other Languages.**

[c] <https://www.haskell.org/> && <https://www.rust-lang.org/> && <https://blog.logrocket.com/machine-learning-in-rust-using-linfa/>

[d] <https://github.com/silvia-odwyer> && <https://github.com/rust-cv> && <https://smartcorelib.org/>

[e] <https://www.idquantique.com/random-number-generation/overview/> - **QRNG Devices + Information Processing.**

[f] [https://enzyme.mit.edu/getting\\_started/UsingEnzyme/](https://enzyme.mit.edu/getting_started/UsingEnzyme/) && <http://www.autodiff.org/> && <https://github.com/mgattozzi/currys> - **Haskell/Rust.**

[g] <https://www.jmlr.org/papers/volume18/17-468/17-468.pdf> - **Automatic Differentiation in Machine Learning: a Survey.**

[h] <https://github.com/guillaume-be/rust-bert> && <https://github.com/ralfbiedert/ffsvm-rust> -> **SVMs + NLP in Rust.**

[i] <https://github.com/ekmett/ad> -> **Haskell based Automatic Differentiation[AD].**

[j] <https://llvm.org/> -> **The LLVM Project is a collection of Modular and Reusable Compiler & Toolchain Technologies.**

[k] Minsky Machines -> <https://www.vixra.org/pdf/1901.0445v1.pdf>

**[IV] Acknowledgment/s :**

Sincere Thanks to all WHO made this happen in my LIFE.Non-Profit R&D.Inspire Others Always.

**[V] Conclusion/s + Future Perspectives :**

One of the pioneering R&D Efforts Using Haskell + Rust w.r.t Advanced Medical Imaging Software R&D.

**[ THE END ]**