# Exploring IoT/Smart Devices based Multi-disciplinary Informatics Research Using Minsky Machines & Machine Learning With C++.

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# [I] Abstract :

An Interesting R&D Insight into [C++ Template Turing Machine/dlib C++ Machine Learning Library ] Software Testing on [ML/IoT/HPC/LLVM-Toolkit/Clang/Future Internet Technologies ] Heterogeneous Systems in the Context of Minsky Machines – A Simple Suggestion.

index words/key words : you can easily guess from the above mentioned Abstract.

# [II] Inspiration+Introduction :

An Insight into HOL-Isabelle/Coq Theorem Provers based Design of Algorithms Using [Minsky Machines+Scala NLP/Scala/Akka/JikesRVM-Research Virtual Machine/JVM/LLVM] in the Context of Electronic Health Record [EHR] Software R&D - A Simple Suggestion on Using [NLP+IoT+HPC]. [Source - <u>http://vixra.org/pdf/1909.0490v1.pdf</u>]

An Inspiration & Suggestion to Probe "Minsky Machines" in the Context of DNA based Informatics towards better Anticipation of "Developmental Biology".

[ Source - <u>http://vixra.org/pdf/1901.0445v1.pdf</u> ]

**[a]** C++ **Template turing Machine Software** : "It's well-known that the C++ template language is Turing-complete, but I realised I'd never actually seen anybody implement a Turing Machine using it. I decided to take that as a challenge, and here you see the results. " [<u>https://github.com/tinuplasticgreyknight/template-turing</u>]

**[b] dlib** C++ **Machine Learning Software** : " Dlib is a modern C++ toolkit containing machine learning algorithms and tools for creating complex software in C++ to solve real world problems. See [ <u>http://dlib.net</u> ] for the main project documentation and API reference. "

[c] IoT/Smart Devices/HPC : Please refer to our other Technical Notes (((via))) Vixra.org mentioned here.Thanks. \* Just for guidance,we are mentioning some links below- there could be other options as well.Please Check.

[d] IoT/HPC/Smart Devices : Product information – [ However, we are not recommending any product here ] https://xdk.bosch-connectivity.com & https://developer.bosch.com/web/xdk & https://things.eu-1.bosch-iot-suite.com/dokuwiki/doku.php?id=examples\_tutorial:xdk:start https://www.bosch-iot-suite.com/tutorials/xdk-cloud-connectivity https://redthunder.blog/2017/08/21/oracle-iot-working-with-bosch-devices https://www.automotiveworld.com/news-releases/xdk-bosch-enables-rapid-development... The XDK from Bosch enables a rapid development of sensor-based IoT solutions

**[e] Minsky Machines** : "A Minsky machine is a finite-state automaton with access to a number of unbounded registers or counters". [ *https://esolangs.org/wiki/*Minsky\_machine ]

#### [III] Informatics R&D Framework Using [ C++ Software Tools+IoT+HPC+Smart Devices ] Systems :

SIMPLE R&D INFORMATICS FRAMEWORK INVOLVING MINSKY MACHINES+MACHINE LEARNING+HARDWARE/SOFTWARE/FIRMWARE FOR FUTURE INTERNET APPLICATIONS.



Read our Related Publications on Vixra.org. Thanks - Dr.Nirmal

## [ Figure I – Algorithm I – Our R&D Algorithm Involving Minsky Machines & Machine Learning Concepts in C++ ] Not a Straight Forward Algorithm – Requires Fine Tuning for all Applications.

Sensor based IoT Solutions are Useful in many Scientific R&D Domains :

- [a] Space & Environmental Sciences
- [b] Gene Chip Designs
- [c] Automobile Industry
- [d] Military Applications.
- [e] Medical Imaging Industry.
- [f] Nuclear Industry
- [g] Agriculture Industry.
- [h] Intelligent & Smart Textiles Industry.
- [i] Oil & Gas Industry SCADA Applications.
- [j] Intelligent Embedded Systems based on AI for future applications.

# [IV] Information wr.t Related R&D Mathematics+Software Used/Useful :

- [a] <u>http://www.vixra.org/author/nirmal\_tej\_kumar</u>
- [b] <u>http://www.vixra.org/author/d\_n\_t\_kumar</u>
- [c] <u>http://www.vixra.org/author/n\_t\_kumar</u>
- [d] <u>http://www.vixra.org/author/nirmal</u>
- [e] https://www.semanticscholar.org/author/Nirmal-Tej-Kumar/12354503/suggest

## [V] Acknowledgment/s :

Special Thanks to all WHO made this happen in my LIFE. Non-Profit R&D.

# [VI] Reference/s :

- [1] https://esolangs.org/wiki/Portable\_Minsky\_Machine\_Notation
- [2] https://esolangs.org/wiki/Minsky\_machine
- [3] https://en.wikipedia.org/wiki/Marvin\_Minsky
- [4] http://web.media.mit.edu/~minsky/
- [5] <u>https://github.com/tinuplasticgreyknight/template-turing</u> C++ Software
- [6] <u>http://dlib.net/</u> && <u>https://github.com/davisking/dlib</u> C++ Software
- [7] *https://www.bosch-connectivity.com*

[ THE END ]