

# **A Set of Mathematical & Software R&D Tools w.r.t Rust + Z3-rs Programming -> Probing Advanced Image Processing Algorithms in the Context of DICOM/MRI Scans/Hardware/Firmware/Software - A Short Technical Communication to Monitor or Verify the Overall Performance Using : SSG + Monte Carlo + SVMs + Minsky Machines + AI.**

*Dr.Nirmal - Informatics R&D Collaborator - USA/UK/Israel/Brazil/Jordan/India/Armenia/P.R.China.  
Current Member - ante Inst UTD Dallas TX USA.  
Contact\_info - hmfg2014@gmail.com*

## **[I] Main Idea + R&D Technical Information :**

“[https://www.reddit.com/r/rust/comments/5y4x9r/challenge\\_rusts\\_type\\_system\\_is\\_not\\_turing\\_complete/](https://www.reddit.com/r/rust/comments/5y4x9r/challenge_rusts_type_system_is_not_turing_complete/) “ -> An Excellent Challenge.

<https://github.com/tejdnk-2019-ShortNotes/AI-S-T-Applications/blob/main/CUBESAT-Rust-Nir-21.pdf>\*

**[a] Rust Programming Language :** <https://www.rust-lang.org/>

**[b] Z3-rs :** <https://github.com/prove-rs/z3.rs>

**[c] DICOM :** <https://github.com/Enet4/dicom-rs>

**[d] MRI Scans/Medical Imaging :** <https://enet4.github.io/mmir-meets-rust/#/>

**[e] Rust & its Related Tools ->**

<https://github.com/tejdnk-2019-ShortNotes> -> Plenty of Examples for your use.\*

**[f] AI + ML + DL :** <https://blog.logrocket.com/machine-learning-in-rust-using-linfa/>

**[g] HPC & IoT & Smart Devices based Informatics : [e] -> Please check our examples.**

**[h] Sobol Sequence Generator - [SSG] :** <https://github.com/Wsiegenthaler/sobol-rs>

**[i] Monte Carlo Simulations/Algorithms :** <https://pm-powerconsulting.com/blog/webassembly-markov-chain-monte-carlo/>

**[j] Photon + WASM w.r.t Rust based Image Processing :** <https://silvia-odwyer.github.io/photon/>

**[k] RUX - Rust Microkernel for SD Testing w.r.t Embedded Systems :** <https://github.com/sorpaas/rux>

**[l] Xilinx - SSG :** [https://xilinx.github.io/Vitis\\_Libraries/quantitative\\_finance/2020.1/guide\\_L1/SobolRsg/sobolrsg.html](https://xilinx.github.io/Vitis_Libraries/quantitative_finance/2020.1/guide_L1/SobolRsg/sobolrsg.html)\*

**[m] FFSVM & libSVM :** <https://docs.rs/ffsvm/0.8.0/ffsvm/> && **[n] Mongo DB-rs :** <https://github.com/mongodb/mongo-rust-driver>

## **[II] A Simple Diagram to Generate Your Own R&D Image Processing Algorithms for Testing :**

So Friends What are you waiting for ?

Please take a look @ our reference : <https://github.com/tejdnk-2019-ShortNotes/AI-S-T-Applications/blob/main/CUBESAT-Rust-Nir-21.pdf>\*

Rigorous Testing in Progress @ the TIME of submission.Keep Hacking ----- Try Novel Methods Always.

Thanks for understanding - Dr.Nirmal.

*{ Non-Profit R&D + Inspire others always + Sincere Thanks to ALL }*

**[ THE END ]**