Exploring Photon/WASM+ LINFA + rustfrc - ["rustfrc" is a Python package with some fast Rust Functions useful for FRC (Fourier Ring Correlation)] w.r.t Z3-rs based Testing of Advanced Cryo-EM Imaging Algorithms.

[Python + Rust + Enzyme + LLVM -> What a combination for innovation & speed involving COVID-19 informatics !!!]
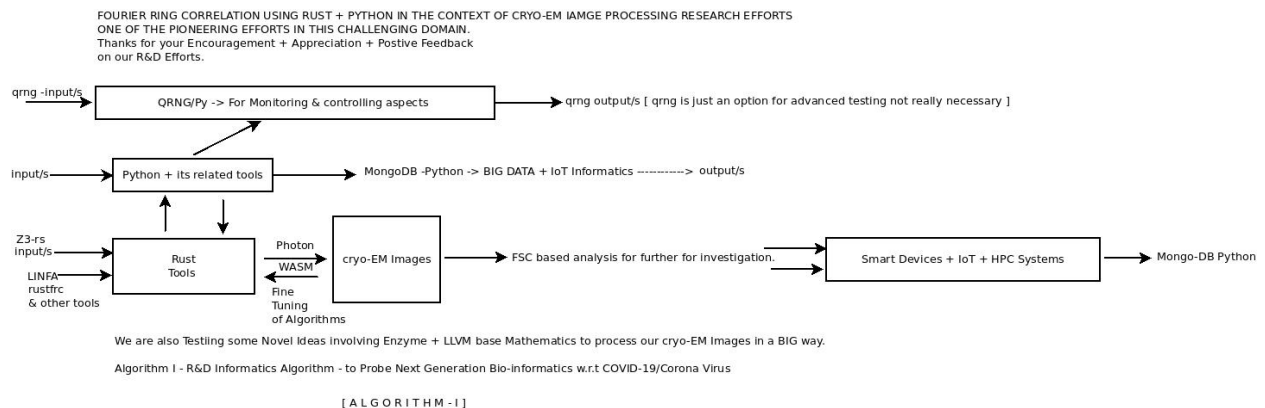
Nirmal - Informatics R&D - USA/UK/Israel/Jordan/Ireland/BRICS Group of Nations.
Current Member - ante Inst UTD Dallas TX USA.
Contact_info - hmfg2014@gmail.com

[I] Main Idea + Inspiration + Introduction :

Based on our TITLE mentioned above : We are Focusing on Theoretical Concepts + Experimental Algorithms.

https://en.wikipedia.org/wiki/Fourier_shell_correlation && https://en.wikipedia.org/wiki/Resolution_(electron_density)

[II] R&D Algorithm/s w.r.t Designing a Novel Bio-informatics Framework :

FOURIER RING CORRELATION USING RUST + PYTHON IN THE CONTEXT OF CRYO-EM IAMGE PROCESSING RESEARCH EFFORTS
ONE OF THE PIONEERING EFFORTS IN THIS CHALLENGING DOMAIN.
Thanks for your Encouragement + Appreciation + Postive Feedback
on our R&D Efforts.

qrng -input/s

QRNG/Py -> For Monitoring & controlling aspects → qrng output/s [qrng is just an option for advanced testing not really necessary]

input/s → Python + its related tools → MongoDB -Python -> BIG DATA + IoT Informatics –----------> output/s

Z3-rs input/s → Rust Tools

LINFA rustfrc & other tools

Photon / WASM / Fine Tuning of Algorithms → cryo-EM Images → FSC based analysis for further for investigation. → Smart Devices + IoT + HPC Systems → Mongo-DB Python

We are also Testiing some Novel Ideas involving Enzyme + LLVM base Mathematics to process our cryo-EM Images in a BIG way.

Algorithm I - R&D Informatics Algorithm - to Probe Next Generation Bio-informatics w.r.t COVID-19/Corona Virus

[A L G O R I T H M - I]

[Figure I - Our Simple Suggestion & Novel Algorithm involving Rust + Python Languages]

[III] Important & Useful References :

[a] https://github.com/tejdnk-2019-ShortNotes -> Plenty of examples for your guidance.Thanks.

[b] https://github.com/tmtenbrink/rustfrc && https://smartcorelib.org/ && https://blog.logrocket.com/machine-learning-in-rust-using-linfa/

[c] https://github.com/tejdnk-2019-ShortNotes/tejdnk-Space-Medicine-Informatics-github.io/blob/master/Rust-Photon-Movidius-Nir-21.pdf*

[d] https://github.com/tejdnk-2019-ShortNotes/tejdnk-Space-Medicine-Informatics-github.io/blob/master/Web-Assembly-Img-Nir-2021.pdf*

[IV] Acknowledgment/s :

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

[V] Conclusions With Future Perspectives :

Hi-speed computation with accuracy is possible with Rust + Python -> towards probing cryo-EM Images in the context of COVID-19 investigations.

[THE END]