

Exploring WebAssembly w.r.t RUST in the Context of Medical Imaging + Electron Microscopy(EM) Image Processing Using Smart Devices + IoT + HPC R&D → A Simple & Interesting Suggestion to Explore COVID-19 Scientific BIG DATA.

[Researching RUST based Bio-informatics/Medical Imaging/Machine Learning R&D Domains]

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[I] Main Idea + Inspiration :

“ Photon is a high-performance Rust image processing library, which compiles to WebAssembly, allowing for safe, blazing-fast image processing both natively and on the web.”

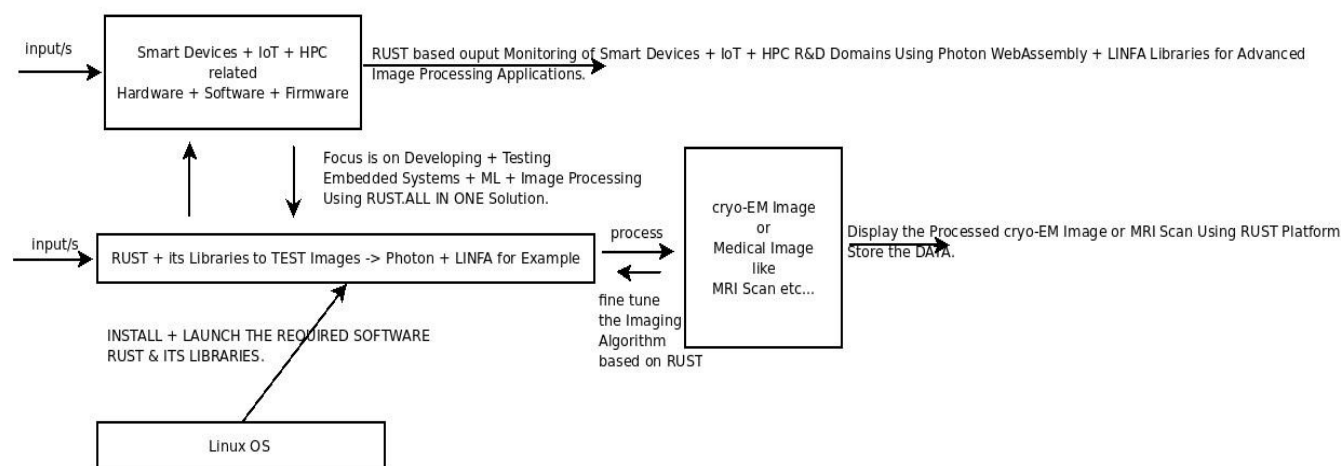
[Source - <https://github.com/silvia-odwyer/photon>]

linfa → aims to provide a comprehensive toolkit to build Machine Learning applications with Rust.

[Source - <https://github.com/rust-ml/linfa>]

[II] WebAssembly Based R&D Informatics Framework :

AN ADVANCED ALGORITHM TO TEST AN INNOVATIVE IMAGE PROCESSING INFORMATICS PLATFORM USING RUST + MACHINE LEARNING



OUR SIMPLE SUGGESTION + IMAGE PROCESSING & INFORMATICS FRAMEWORK -> TO PROBE ELECTRON MICROSCOPY IMAGES + MEDICAL IMAGES.

RIGOROUS TESTING IN PROGRESS AT THE TIME OF ONLINE PUBLICATION.

READ AND UNDERSTAND ALL THE LITERATURE MENTIONED IN OUR SHORT TECHNICAL COMMUNICATION.

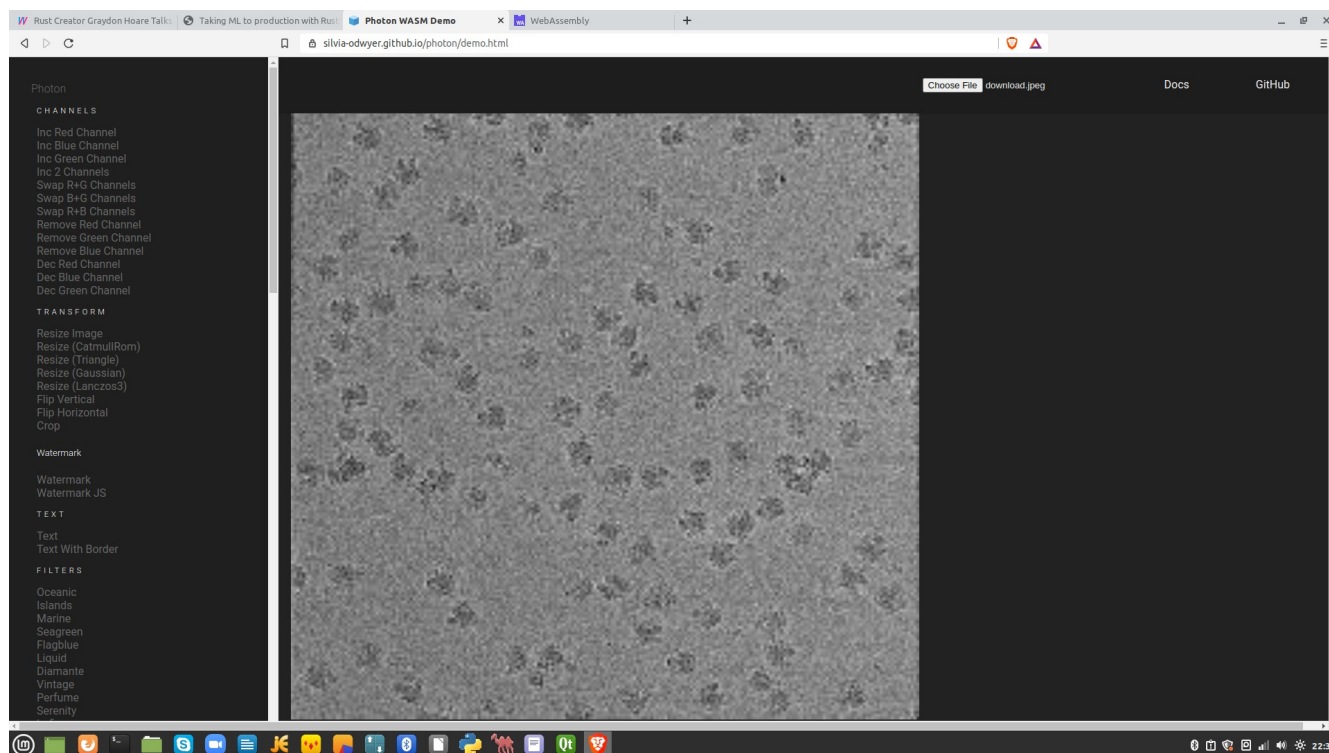
ACTUAL IMPLEMENTATION WILL VARY.

PLEASE CHECK & SATISFY YOURSELVES.

Thanks for Understanding - Dr.Nirmal

To the BEST of our knowledge this is one of the pioneering R&D Efforts in these highly demanding + challenging Scientific Domains.

[Figure I – Simple RUST based Image Processing Framework]



[Figure II – Testing of cryo-EM Image Using Above Mentioned Software]

High-performance, cross-platform Rust/WebAssembly image processing library + LINFA

[III] WebAssembly or Other Important Reference/s :

[a] <https://github.com/silvia-odwyer/photon>

[b] <https://lib.rs/science/ml>

[c] <https://thenewstack.io/rust-creator-graydon-hoare-talks-about-security-history-and-rust/>

[d] <https://www.lpalmieri.com/posts/2019-12-01-taking-ml-to-production-with-rust-a-25x-speedup/>

[e] <https://webassembly.org/>

[f] <https://www.rust-lang.org/what/wasm>

[g] <https://github.com/tejdnk-2019-ShortNotes>

[h] https://www.researchgate.net/publication/303462482_Understanding_JikesRVM_in_the_Context_of_Cryo-EMTEMSEM_Imaging_Algorithms_and_Applications_-_*

[i] DOI : [10.5958/0975-8089.2016.00001.4](https://doi.org/10.5958/0975-8089.2016.00001.4) *

[j] https://en.wikipedia.org/wiki/Cryogenic_electron_microscopy

[IV] Acknowledgment/s :

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

[V] Conclusion/s With Future Perspectives :

Just to mention,we have considered → A High-performance, cross-platform Rust/WebAssembly image processing library in the Context of COVID-19 Image Processing + Bio-informatics Platform.

[THE END]