Using Python based Fine Tuning of [IMAGEAI + a PARTICLE PICKER] in the Context of cryo-EM Image Processing towards Developing Novel cryo-EM Informatics Platform.

[AI Touch for Particle Picking in the cryo-EM Image Processing Application]

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[I] Inspiration & Introduction :

[a] APPLE PICKER - https://arxiv.org/abs/1802.00469

"Particle picking is a crucial first step in the computational pipeline of single-particle cryo-electron microscopy (cryo-EM). Selecting particles from the micrographs is difficult especially for small particles with low contrast. As high-resolution reconstruction typically requires hundreds of thousands of particles, manually picking that many particles is often too time-consuming. "

https://github.com/PrincetonUniversity/APPLEpicker-python
[APPLE Picker: Automatic Particle Picking, a Low-Effort Cryo-EM Framework]

[b] IMAGEAI - http://imageai.org/

[**ImageAI** is an easy to use Computer Vision Python library that empowers developers to easily integrate state-of-the-art Artificial Intelligence features into their new and existing applications and systems]

[c] *https://arxiv.org/pdf/1605.01838*

[d] *Formalizing Image Processing in Higher Order Logic(hol) by Understanding and Using XML-Hol-Scala-JVM Software Framework Towards Processing of Cryo-Em/tem/sem Images Based on Levy Processes* [DNT Kumar]@inproceedings{DNTKumar2017FormalizingIP, title={Formalizing Image Processing in Higher Order Logic(hol) by Understanding and Using XML-Hol-Scala-JVM Software Framework Towards Processing of Cryo-Em/tem/sem Images Based on Levy Processes a Novel Suggestion}, author={D.N.T.Kumar}, year={2017} }*

A Simple Introduction and Short Communication on Higher Order Logic (HOL)-JVM/Jikes RVM-Based Deep Learning Algorithms and Mechanisms to Probe the Frontiers of Cryo-EM Image Processing: Tasks and Big Data-Related Applications
D.N.T. Kumar / **DOI:**10.5958/0975-8089.2018.00021.0

[e] *https://bmcstructbiol.biomedcentral.com/articles/10.1186/1472-6807-13-25*

[II] AI Particle Picking Informatics Framework :
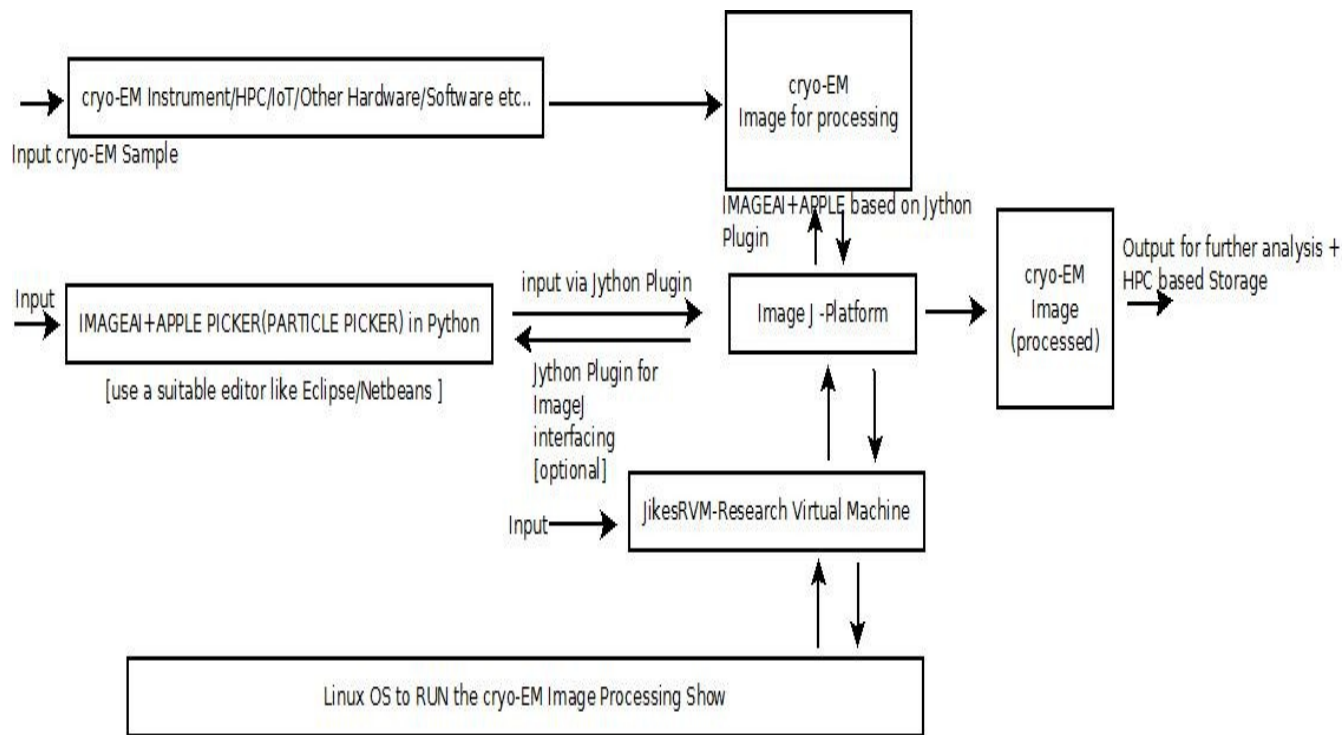
Figure I – Our Total Overview AI-cryoEM Imaging Using Python-Java-ImageJ Platform.

Derived the above mentioned BLOCK DIAGRAM from :

http://vixra.org/abs/1904.0487

http://vixra.org/abs/1812.0454

https://omictools.com/particle-picking-category

[III] Reading Materials/References :

https://www.semanticscholar.org/author/Nirmal-Tej-Kumar/12354503/suggest

https://arxiv.org › physics

spr.math.princeton.edu/

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https://www.sciencedirect.com/topics/biochemistry-genetics.../single-particle-analysis

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https://www.osti.gov/servlets/purl/810542

[IV] Acknowledgment/s :

THE END.