

**AN INTERESTING INSIGHT INTO POLYHEDRA COMPUTATION BASED ON PPL[(Parma Polyhedra Library in C++)/ImageJ/JIProlog/JikesRVM/Java/Eclipse-IDE] IN THE CONTEXT OF SOFTWARE DEVELOPMENT INVOLVING R&D OF [AI+COMPLEX SYSTEMS+CRYO-EM INFORMATICS] USING IoT/HPC FRAMEWORK.**

[ Probing Numerical Abstractions in Engineering/Physics/Biology/Image Processing Domains ]

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**[I] Our Introduction & Inspiration :**

<https://www.bugseng.com/parma-polyhedra-library>

<https://www.bugseng.com/ppl-abstractions>

<http://vixra.org/author/nirmal> [ <http://vixra.org/abs/1803.0124> ]

[http://vixra.org/author/d\\_n\\_t\\_kumar](http://vixra.org/author/d_n_t_kumar)

<https://dspace.mit.edu/handle/1721.1/6060>

<http://theory.stanford.edu/~srirams/nsv/index.html>

**“Abstraction in Artificial Intelligence and Complex Systems**

By Lorenza Saitta, Jean-Daniel Zucker

**Springer Science & Business Media, 05-Jun-2013 - Computers - 484 pages”**

“Abstraction is a fundamental mechanism underlying both human and artificial perception, representation of knowledge, reasoning and learning. This mechanism plays a crucial role in many disciplines, notably Computer Programming, Natural and Artificial Vision, Complex Systems, Artificial Intelligence and Machine Learning, Art, and Cognitive Sciences. It is the impact of abstraction in Artificial Intelligence, Complex Systems and Machine Learning which creates the core of the book. “

[ Source: [https://books.google.co.in/books?id=\\_Q1GAAAAQBAJ&dq=Numerical+Abstractions+stanford&source=gbs\\_navlinks\\_s](https://books.google.co.in/books?id=_Q1GAAAAQBAJ&dq=Numerical+Abstractions+stanford&source=gbs_navlinks_s) ]

<https://www.cio.com/article/2436015/5-things-grady-booch-has-learned-about-complex-software-systems.html>

<http://www.drdoobs.com/testing/testing-complex-systems/240008913>

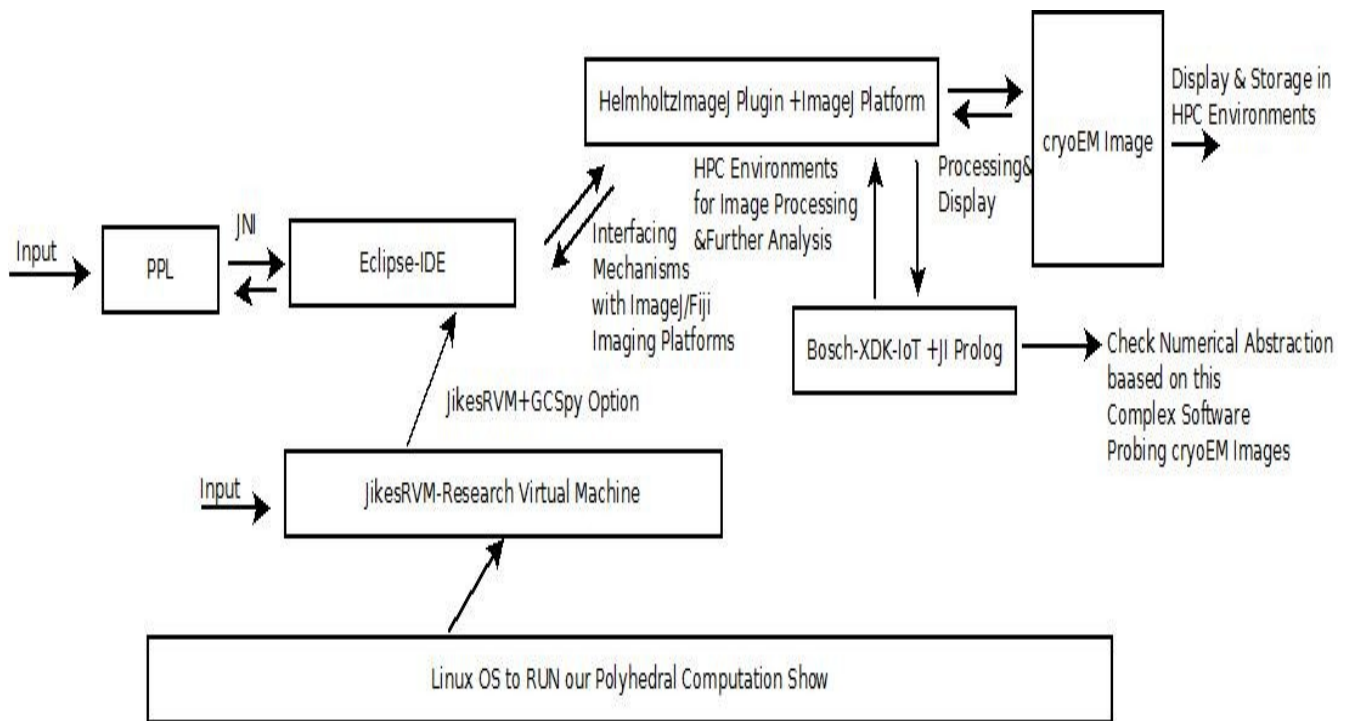
**\*\*\*\*\* Readers Please Note : Written in FREE STYLE. No specific format is followed.**

Understanding JikesRVM in the Context of Cryo-EM/TEM/SEM Imaging Algorithms and Applications – A General Informatics Introduction from a Software Architecture View Point [Source: DOI: 10.5958/0975-8089.2016.00001.4 ]

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. [Source : <https://www.semanticscholar.org/author/D.N.T.Kumar/72428440> ]

<https://www.hpl.hp.com/techreports/2006/HPL-2006-2.pdf>

### [II] Our Informatics Framework :



Approximate cryoEM Image Processing PPL-IMAGEJ Platform in the Context of IoT/HPC/JI Prolog  
Please Check & Satisfy Yourself.  
Thanks - Nirmal

**Figure I – Our Total Overview & Practical Algorithm/Suggestion. Actual Implementation will vary to some extent. Please Check. We are not endorsing any commercial product/s here there could be other options as well.**

**[ Rigorous Testing in progress at the time of submission ]**

### **[III] Our Important Information on Mathematics & Software Used/Useful :**

[http://vixra.org/author/nirmal\\_tej\\_kumar](http://vixra.org/author/nirmal_tej_kumar)

<http://vixra.org/author/nirmal>

[http://vixra.org/author/n\\_t\\_kumar](http://vixra.org/author/n_t_kumar)

[http://vixra.org/author/d\\_n\\_t\\_kumar](http://vixra.org/author/d_n_t_kumar)

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

<https://en.wikipedia.org/wiki/Polyhedron>

<http://mathworld.wolfram.com/Polyhedron.html>

<https://www.bugseng.com/parma-polyhedra-library>

<http://www.netlib.org/polyhedra/>

[www.ece.drexel.edu/walsh/JayantCHM.pdf](http://www.ece.drexel.edu/walsh/JayantCHM.pdf)

<ftp://ftp.math.ethz.ch/users/fukudak/reports/polyfaq040618.pdf>

<https://cs.uwaterloo.ca/~alubiw/polyhedra.html>

[https://www.inf.ethz.ch/personal/fukudak/lect/pclect/notes2014/polycomp\\_intro.pdf](https://www.inf.ethz.ch/personal/fukudak/lect/pclect/notes2014/polycomp_intro.pdf)

<https://www.cs.mcgill.ca/~fukuda/soft/>

<http://www.jiprolog.com/>

<https://www.jikesrvm.org/>

<https://www.eclipse.org/>

<https://imagej.nih.gov/>

<https://fiji.sc/>

<https://www.bugseng.com/content/documentation>

<https://casmodeling.springeropen.com/articles/10.1186/2194-3206-1-2>

<https://www.gribble.org/papers/robust.pdf>

### **[IV] Our Acknowledgment/s :**

Special Thanks to all who made this happen in my LIFE. Non-Profit Academic R&D only.  
No commercial interest/s are intended in preparing this Short Technical Note.

**THE END.**