

**A Short Communication & Technical Notes on – Developing Novel Image Processing Algorithms Using – [ Marvin]+JSON+IMAGEAI+Z3 API in Python(Theorem Prover)] in the Context of Next Generation Medical Image Processing Software/Cryo-EM Image Processing Software Architecture R&D for [ AI/IoT/HPC/Mobile Systems ] Heterogeneous Environment/s**

**Nirmal Tej Kumar**

**Independent Consultant : Informatics/Imaging/AI/Photonics/Nanotech/HPC R&D.  
 R&D Collaborator : USA/UK/Israel/India/South Korea/Brazil.  
 Current Member : ante Inst,UTD,Dallas,TX,USA.  
 email id : [hmf2014@gmail.com](mailto:hmf2014@gmail.com)**

**[I] Inspiration & Introduction :**

Marvin] is a pure javascript image processing framework derived from Marvin Framework. This front page gives you a glimpse of how easy and powerful is Marvin] for many different image processing applications.  
 [Source : <https://www.marvinj.org/en/index.html> ]

<https://ericpony.github.io/z3py-tutorial/guide-examples.htm> – z3py Theorem Prover Information.

<https://ece.uwaterloo.ca/~agurfink/stqam/z3py-advanced>

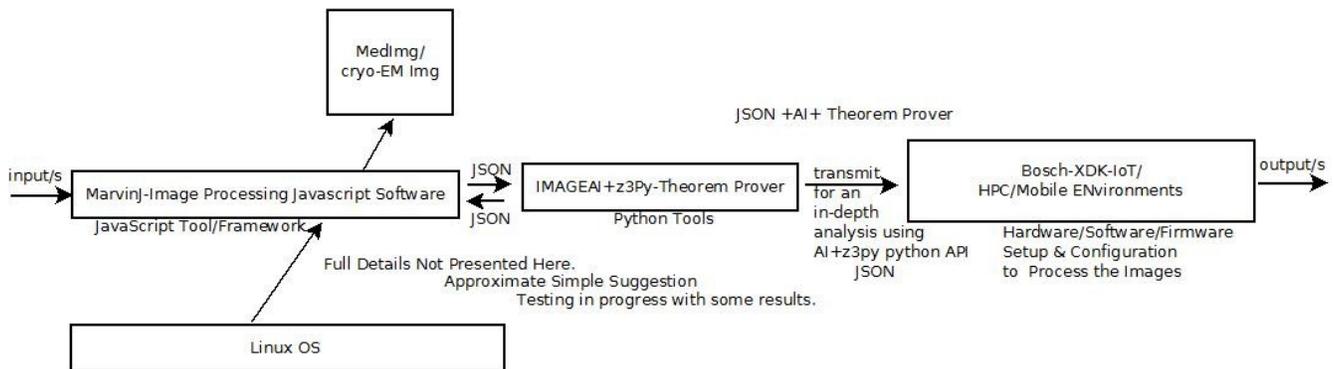
<https://cloud.google.com/vision>

<http://imageai.org/> – IMAGEAI-Python Based AI Library -Excellent Python Tool .

[hgoebl.github.io > mobile-detect](https://github.com/hgoebl/mobile-detect) -[mobile-detect.js](https://github.com/hgoebl/mobile-detect.js) | Device detection (phone, tablet, desktop, mobile .

**[II] Experimental R&D Imaging+Informatics Framework :**

INTERFACING JAVASCRIPT SOFTWARE via JSON WITH IMAGEAI+Z3PY THEOREM PROVER TO IMPLEMENT - IoT/HPC/MOBILE SYSTEMS



ALGORITHM I - MARVIN]+JSON+IMAGEAI+Z3PY PYTHON API TOWARDS ADVANCED IMAGE PROCESSING APPLICATIONS IN THE CONTEXT OF MEDICAL IMAGES & CRYO-EM IMAGES . PLEASE CHECK & SATISFY.ACTUAL IMPLEMENTATION MIGHT VARY TO SOME EXTENT -READ ALL THE LITERATURE. Thanks - Dr.Nirmal.

**[ Figure I – Algorithm I – Describing Our Simple Suggestion – by Exploring – JavaScript+JSON+Python+AI+ Python based Theorem Prover for Advanced Image Processing Applications R&D ]**

### **[III] Related R&D Information on Mathematics & Software Used :**

- [i] [http://vixra.org/author/nirmal\\_tej\\_kumar](http://vixra.org/author/nirmal_tej_kumar)
- [ii] <http://vixra.org/pdf/1709.0412v1.pdf> –Formalizing Image Processing –Very much important.
- [iii] <http://vixra.org/abs/1909.0009>
- [iv] <http://vixra.org/abs/1908.0356>
- [v] <http://vixra.org/abs/1812.0454>
- [vi] <http://vixra.org/abs/1905.0540>

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

Special Thanks to all WHO made this happen in my LIFE. Non-Profit R&D.

### **[V] Conclusion With Future Perspectives :**

A Simple but useful & promising AI/IoT/HPC/Mobile Systems in the context of above mentioned Software+Mathematics is presented.

### **[VI] References :**

- [a] D.N.T. Kumar and Gagik Sh.,Understanding JikesRVM in the Context of Cryo-EM/TEM/SEM Imaging Algorithms and Applications –A General Informatics Introduction from a Software Architecture View Point Vol. 7, Issue 1, January–April, 2016 (IJARITAC) 1–7.DOI: 10.5958/0975–8089.2016.00001.4
- [b] Nirmal Tej Kumar,An Insight into Cryo-EM Imaging Process Architecture Using GENTLE Compiler Construction System with an Informatics Design Paradigm.Vol. 7, Vol.Issue May–August,2016 (IJARITAC)80–89. DOI: 10.5958/0975–8089.2016.00008.7
- [c] <http://cryoem.berkeley.edu/cryoem>
- [d] <https://www.json.org> – **JSON** –JSON (JavaScript Object Notation) is a lightweight data–interchange format. It is easy for humans to read and write. It is easy for machines to parse and generate.
- [e] <https://github.com/RealTimeLogic/JSON>
- [f] <https://xdk.bosch-connectivity.com> –Home – XDK – Bosch Connected Devices and Solutions  
<https://developer.bosch.com> > web > xdk > cloud –XDK – Cloud – Bosch Developer Portal  
<https://ioutil.io> > news > blog > use-bosch-xdk-with-ioutil-in-research-...Use Bosch XDK with IoTool in research
- [g] <https://en.wikipedia.org> > wiki > JavaScript
- [h] <https://www.w3schools.com> > python > python\_json

**[ THE END ]**