[CoqTP – q*cert- Ocaml- Python - GAN] as an Informatics & Computing Platform in the Context of cryo-EM Image Processing & BIG DATA Research.

Importance of GAN & Theorem Provers For Better cryo-EM Image Processing/IoT/HPC

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[I] Introduction & Inspiration :

http://vixra.org/author/nirmal_tej_kumar

http://vixra.org/author/n_t_kumar

http://vixra.org/author/d_n_t_kumar

http://vixra.org/author/dnt_kumar

http://vixra.org/author/nirmal

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

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 http://dx.doi.org/10.5958/0975-8089.2018.00021.0

http://davidcrowe.ca/SciHealthEnv/papers/9599-IsHighTechViewOfHIVTooGoodToBeTrue.pdf

```
[@inproceedings{2017forCI, title={for Cryo-EM Image Processing involving
Gr{\"o}bner Bases Using C + + / Java / HOL / Scala / Scalalab / ImageJ Software
Environments – A Short Communication on Gr{\"o}bner Bases With Applications in
Signals and Systems Using JikesRVM / JVM}, author={}, year={2017} } ]
```

http://vixra.org/pdf/1802.0050v1.pdf

https://medium.com/@jonathan_hui/gan-some-cool-applications-of-gans-4c9ecca35900

[II] Informatics Framework & Implementation :
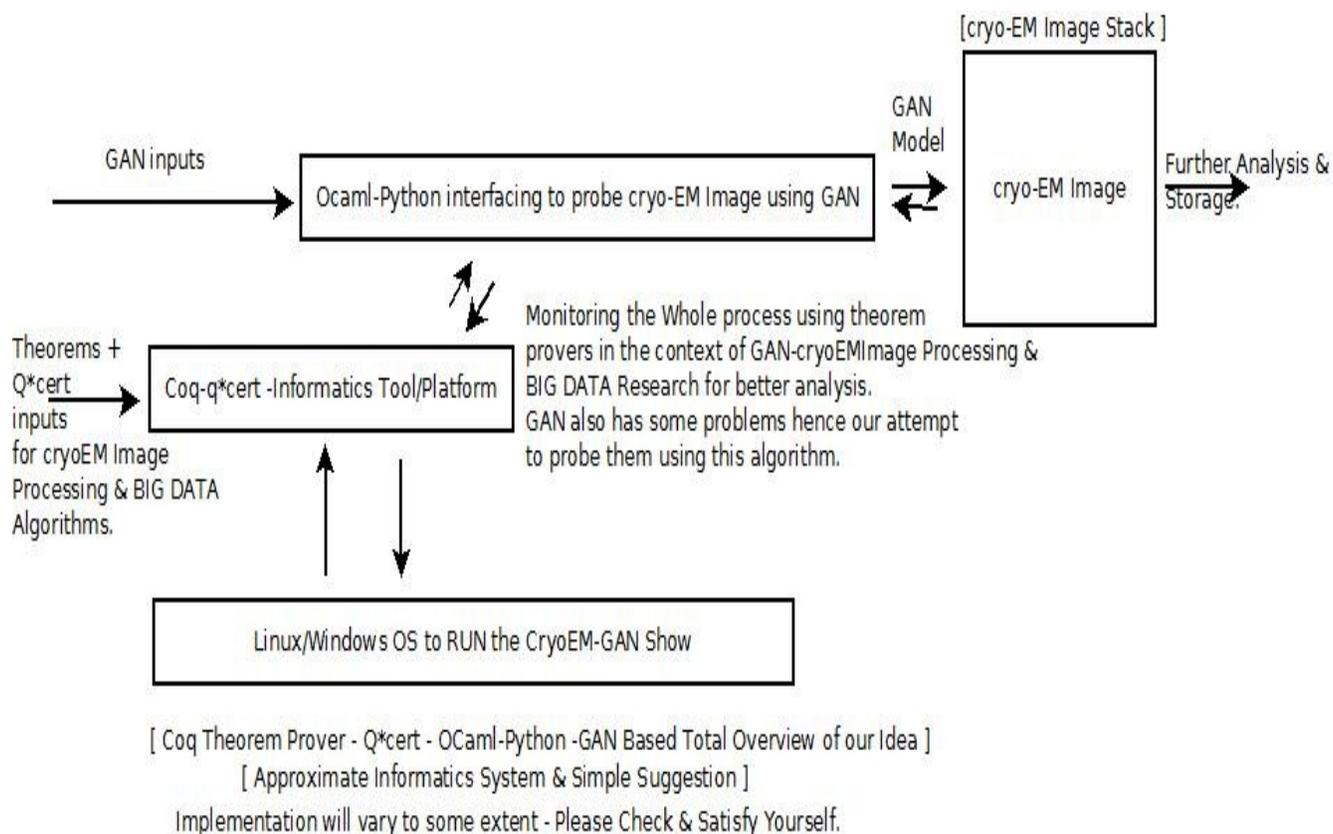
Figure I – Our Algorithm Presented Using Block Diagram Approach.
[Testing in progress at the time of submission]

"Who developed GAN Lab?

GAN Lab was created by Minsuk Kahng, Nikhil Thorat, Polo Chau, Fernanda Viégas, and Martin Wattenberg, which was the result of a research collaboration between Georgia Tech and Google Brain/PAIR. We also thank Shan Carter and Daniel Smilkov, Google Big Picture team and Google People + AI Research (PAIR), and Georgia Tech Visualization Lab for their feedback."

[Source : https://poloclub.github.io/ganlab/]

The following links could be useful in designing block diagrams + algorithms etc…
Please Check.

https://medium.com/@devnag/generative-adversarial-networks-gans-in-50-lines-of-code-pytorch-e81b79659e3f

https://github.com/uclaacmai/Generative-Adversarial-Network-Tutorial

https://github.com/brandontrabucco/program-gan

http://blog.aylien.com/introduction-generative-adversarial-networks-code-tensorflow/

https://dl.acm.org/citation.cfm?id=3238187

https://rubikscode.net/2018/12/17/implementing-gan-dcgan-with-python/

[III] Additional Information on Mathematics & GAN Software Used/Useful :

https://github.com/junyanz/CycleGAN

https://www.oreilly.com/learning/generative-adversarial-networks-for-beginners

https://www.geeksforgeeks.org/generative-adversarial-network-gan/

https://www.dailymail.co.uk/sciencetech/article-6831227/Nvidia-unveils-incredible-smart-paintbrush-software-uses-AI-turn-simple-doodles-art.html

https://openai.com/blog/generative-models/

https://towardsdatascience.com/gangogh-creating-art-with-gans-8d087d8f74a1

https://poloclub.github.io/ganlab/

http://minsuk.com/research/papers/kahng-ganlab-vast2018.pdf

http://ieeevis.org/year/2018/welcome

[IV] Conclusion/s With Future Perspectives :

An interesting approach is presented for further investigation.

[V] Acknowledgment/s :

Special Thanks to all. Non-Profit Academic R&D.

[VI] References :

[a] http://www.apsipa.org/proceedings/2018/pdfs/0000722.pdf

[b] https://intellipaat.com/tutorial/tutorialartificial-intelligence-tutorial/machine-learning-opencv/

[c] https://skymind.ai/wiki/open-datasets

[d] https://skymind.ai/wiki/generative-adversarial-network-gan

[e] https://coq.inria.fr/ && https://querycert.github.io/

[f] https://en.wikipedia.org/wiki/Generative_adversarial_network

[g] https://pypi.org/project/tensorflow-gan/

[h] http://www.ocaml.org/&& http://pyml.gforge.inria.fr/&& http://biocaml.org/

[i] https://github.com/thierry-martinez/pyml

[j] http://pycaml.sourceforge.net/ && https://github.com/biocaml/biocaml

[k] https://github.com/hcarty/imagelib && https://ocamlverse.github.io/content/scientific.html

THE END.