

[QRNG Services/Devices/ImageAI/Smart Devices/IoT/HPC/Python/Z3 API Python-Theorem Prover/Mongo Data Base System-Python] based Analysis of Ramachandran Plots in the Context of Understanding Nano-Bio Material Systems & Bio-Informatics.

[Exploring Interesting Information on – Prof.G.N.Ramachandran & Ramachandran Plots]

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[I] Inspiration + Introduction :

“Great Indian physicist G N Ramachandran - Behind the triple helix model and the Ramachandran plot, he put Madras on the map of science, but sadly, not many remember him today.”

[Source - <https://swarajyamag.com/science/g-n-ramachandran-the-great-indian-scientist-and-vedantin>]

<https://vigyanprasar.gov.in/g-n-ramachandran>

arvindguptatoys.com/arvindgupta/bs33gnramachandran.pdf

<https://biology.stackexchange.com/questions/1853/what-is-the-significance-and-method>

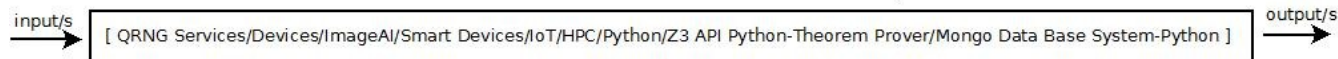
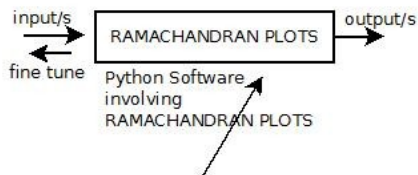
[II] Informatics Framework for Testing Bio-informatics R&D Algorithms – Simple Implementation :

S I M P L E A L G O R I T H M - I

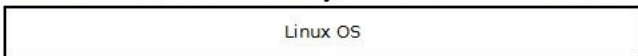
Python based Next Generation Informatics Platform
 Involving the Tools Mentioned below.

Testing in progress With some Promising Results.

Approximate R&D Bio-informatics Framework Only.
 Needs Fine Tuning -Please Check our Notes on Vixra.org
 Thanks - Dr.Nirmal.



install+launch the necessary or required Software - Please read all the references provided.
 Since we have already published or presented a number of Technical Notes/Short Communications via Vixra.org
 We are not going into the details here. Only the connecting information.
 In our earlier published technical notes/short communications we have considered Image Processing applications.Here
 we are interested in probing RAMCHANDRAN Plots.I am sure fine tuning is much easier.



Algorithm I - Next Generation Bio-informatics R&D Framework with Hardware/Software/Firmware Systems

[Figure I – Algorithm I – Informatics R&D Framework to Probe Bio-informatics]

[a] http://www.vixra.org/author/nirmal_tej_kumar && [b] http://www.vixra.org/author/d_n_t_kumar

[c] http://www.vixra.org/author/n_t_kumar && [d] <http://www.vixra.org/author/nirmal>

[III] Information on Mathematics+Software Used :

- [a] <https://pypi.org/project/qrng/>
- [b] <https://www.azevedolab.net/>
- [c] <http://imageai.org/>
- [d] <https://spacy.io/>
- [e] <https://www.i-programmer.info/news/112-theory/8722-microsoft-z3-theorem-prover-wins..>
- [f] <https://pypi.org/project/z3-solver/>
- [g] <https://xdk.bosch-connectivity.com/overview>
- [h] <https://xdk.bosch-connectivity.com/cloudinfo>
- [i] <https://www.zerynth.com/>
- [j] <https://swarajyamag.com/science/g-n-ramachandran-the-great-indian-scientist-and-vedantin>
- [k] <https://docs.mongodb.com/ecosystem/drivers/python>
- [l] <https://www.mongodb.com/blog/post/getting-started-with-python-and-mongodb>

[m] **Z3 API in Python** : **Z3** is a high performance theorem prover developed at Microsoft Research. **Z3** is used in many applications such as: software/hardware verification and testing, constraint solving, analysis of hybrid systems, security, biology (in silico analysis), and geometrical problems.

[Source - <https://ericpony.github.io/z3py-tutorial/guide-examples.htm> - Interesting Information]

[IV] Acknowledgment/s :

Special Thanks to all my Mentors/Friends/Well wishers/Collaborators. Non-Profit R&D.

[V] References :

- [a] <https://spdbv.vital-it.ch/TheMolecularLevel/SPVTut/text/STuto8.html>
- [b] www.thefullwiki.org/Ramachandran_plot
- [c] <https://brainly.in/question/7163749>
- [d] www.reading.ac.uk/bioinf/Bl2BL5/practical1/rama.html
- [e] <https://www.golifescience.com/polypeptide-ramachandran-plot>
- [f] https://www.slideshare.net/balavignesh_b/ramachandran-plot
- [g] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3061398>
- [h] theory.stanford.edu/~nikolaj/programmingz3.html

[THE END]