Revisiting "Nucleic Acids Data Sequencing using Higher Order Logic-A Suggestion of Basic Computational Framework Towards Bio-Sensors and Gene-Chips Design, Implementation and Verification".

["Novel Design by modification/extension of the above mentioned TITLE/IDEA Using HOL & HOL based Deep Learning(DL) Library"].*

Deep Learning for Next Generation DNA/RNA Sequencing Applications

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[I] A simple commentary on the above mentioned TITLE :

Jul 6 -2019.

"Nucleic Acids Data Sequencing using Higher Order Logic-A Suggestion of Basic Computational Framework Towards Bio-Sensors and Gene-Chips Design, Implementation and Verification" by Kumar et al in 2012.

*@inproceedings{Kost2012NucleicAD, title={Nucleic Acids Data Sequencing using Higher Order Logic-A Suggestion of Basic Computational Framework Towards Bio-Sensors and Gene-Chips Design, Implementation and Verification *}, author={Yossi Kost and Hui Qiao and Qufu Wei}, year={2012} }*

[Source : Journal of Applied Mathematics & Bioinformatics,SSN: 1792-6939 (Online) 1792-6602 (Print)]

The above mentioned Publication was highly useful in "Solving" some of the pressing/demanding problems in DNA/RNA Sequencing using Higher Order Logic(HOL) in the context of designing & testing Gene Chips/Bio-Sensors etc.

Recently,the author has successfully extended or modified the design approach using HOL based Deep Learning(DL) Library.This could help us towards filing an excellent PATENT application. Hence the idea is proven and we conclude that our paper is very much useful in taking Bio-informatics R&D one step higher.

*** Our idea is being used by some hi-tech startups internationally. Results are promising and useful.

[II] Further Implementation Using a Simple & Interesting Modification based on Higher Order Logic(HOL) + HOL Deep Learning Library towards a Novel Design Framework involving DNA/RNA Sequencing in the context of Gene-Chips/Bio-sensor Applications.
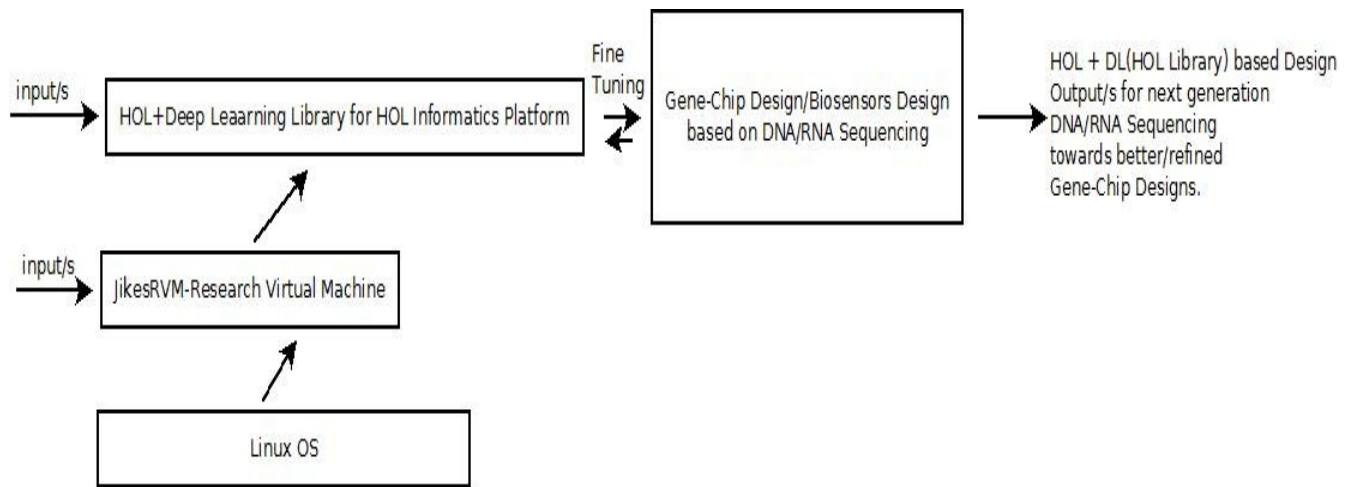
Simple Suggestion - GeneChips/biosensor Design Informatics Framework.
Tested to some extent with success.Thanks - Dr.Nirmal
Please check & satisfy Yourself. Actual Implementation Will Vary - Please read the literature.
Promising Design Approach for Solving Next Generation DNA/RNA Sequencing Problems.

Figure I – Simple HOL& HOL based Deep Learning(DL) Library based TESTBED for Next Generation DNA/RNA Sequencing. Advanced Testing in Progress.
Successfully tested some basic features.

For further reading,please see our above mentioned paper.

Thanks – Dr.Nirmal

One Important Reference that could be useful is :

"A Formal Proof of the Expressiveness of Deep Learning" - DOI:10.1007/s10817-018-9481-5

THE END.