Ruby + AI + Hardware Mathematics + QRNG -> Better Quantum Circuits + Signal Processing.

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[I] Abstract :

Probing & Testing Hardware Compilers + Quantum Circuits Using Ruby in the Context of SVM + QRNG + Grobner Bases -> A Simple Suggestion -> Designing Ruby based Informatics Intelligent Platform.

index words/key words : you can guess easily.

[II] Inspiration + Main Idea about Ruby Programming Language :

Ruby -> **A PROGRAMMER'S BEST FRIEND :**

"Ruby is...

A dynamic, open source programming language with a focus on simplicity and productivity. It has an elegant syntax that is natural to read and easy to write."

About Ruby

"Wondering why Ruby is so popular? Its fans call it a beautiful, artful language. And yet, they say it's handy and practical. What gives?

The Ideals of Ruby's Creator :

Ruby is a language of careful balance. Its creator, Yukihiro "Matz" Matsumoto, blended parts of his favorite languages (Perl, Smalltalk, Eiffel, Ada, and Lisp) to form a new language that balanced functional programming with imperative programming.

He has often said that he is "trying to make Ruby natural, not simple," in a way that mirrors life.

Building on this, Matz adds:

Ruby is simple in appearance, but is very complex inside, just like our human body[1]*."*

"The Ruby programming language hasn't historically been the subject of much research, either in industry or academia. A lot of recent systems research has used languages like C, C++ and Java. Contemporary programming language research often uses languages like Java, Scala, Racket and Haskell. Modern research into VMs, compilers and garbage collectors is often based on Java or recently Python.

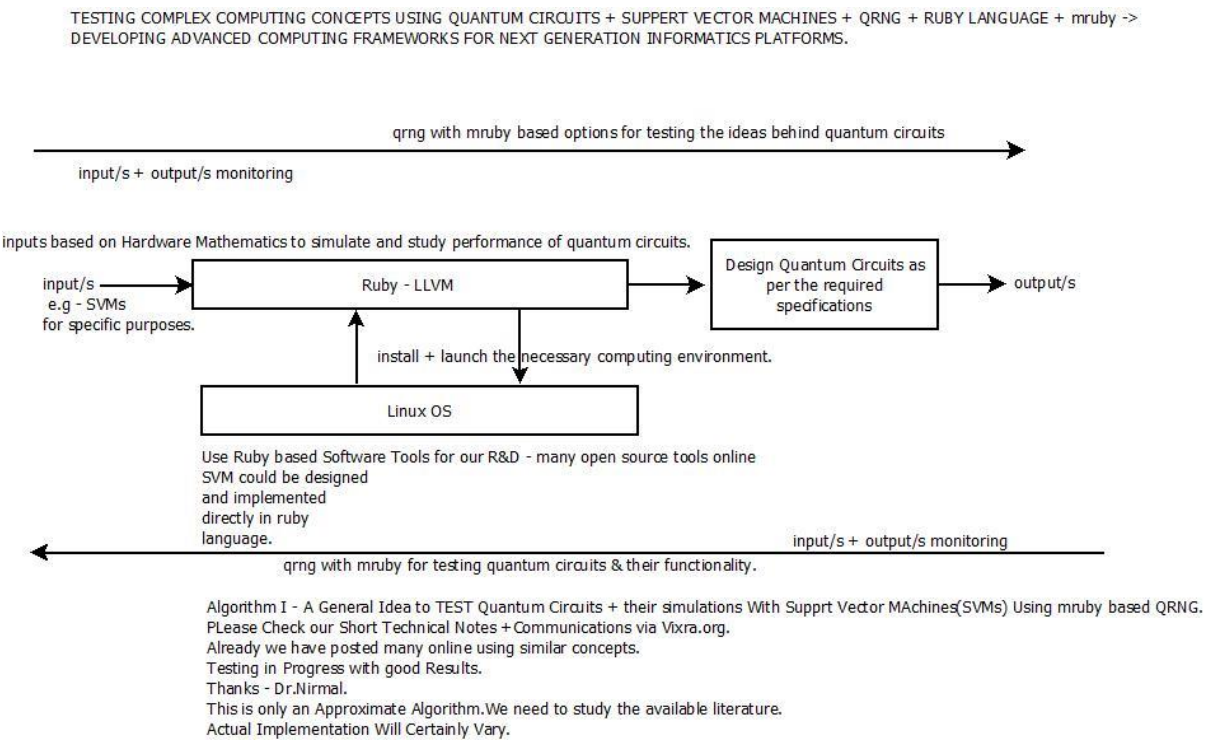
However there are now a growing number of research projects using Ruby. On this page we list theses and peer-reviewed papers and articles that cover Ruby implementation or use Ruby, including alternative implementations such as JRuby."

[Source -> https://rubybib.org/ **]**

D N T Kumar, L Yonggui, Q Wei, "Suggestion of Support Vector Machines as Computational Tools for the Analysis of Quantum Circuits," IJCIT v4 n1, pp.25-36, June 2012, ISSN: 0974-696X -> https://sites.google.com/site/ijcitcfp/ijcit-content

https://vixra.org/abs/1907.0306

[III] Simple Ruby based R&D Informatics Framework for Hardware Compilers/Electronic Circuits :



[Figure I – Algorithm I]

**** One could also involve Grobner bases to TEST certain ideas.**

[IV] Important References Using Ruby :

[a] https://www.researchgate.net/publication/220886128

[b] https://www.practicalai.io/implementing-classification-using-a-svm-in-ruby/

[c] https://vixra.org/pdf/1907.0306v1.pdf

[d] https://github.com/SergioFierens - Ruby based AI – Very useful.

[e] https://www.semanticscholar.org/paper/Compiling-Ruby-into-FPGAs-Guo-Luk/cf97d7885458adf0d1463af70d993bec57947418

[f] https://github.com/tejdnk-2019-ShortNotes/Testing-EM-Images

[g] https://www.semanticscholar.org/author/Nirmal-Kumar/12354503

[V] Acknowledgement/s :

Sincere Thanks to all my Friends + Mentors + Collaborators.

Appreciate Positive Feedback from everywhere. Let us inspire others.

Non-Profit R&D.

[VI] Conclusion/s With Future Perspectives :

An excellent short communication using Ruby is presented for mission critical applications involving Space + Medical R&D domains - > Testing - > Smart Devices + IoT + HPC - Heterogeneous Environment/s. Thanks for reading our short technical communication. Using AI + Ruby we could perform wonders in Hardware Compilation + Testing + Implementation. To the best of our knowledge, this is one of the pioneering R&D efforts in these challenging domains of Space + Medicine.

[VII] References -> Ruby + Ruby based important tools :

[a] https://www.ruby-lang.org/en/

[b] https://llvm.org/

[c] https://www.ruby-lang.org/en/news/2018/12/25/ruby-2-6-0-released/#:~:text

[d] https://bugs.ruby-lang.org/projects/ruby/wiki/MJIT#MJIT-organization

[e] https://github.com/jvoorhis/ruby-llvm

[f] https://github.com/vidarh/writing-a-compiler-in-ruby/

[g] https://github.com/arbox/data-science-with-ruby

[h] https://github.com/k0kubun/llrb

[i] https://repl.it/languages/Ruby - Ruby Language Online Editor.

[j] https://github.com/ruby-llvm/ruby-llvm

[k] https://www.rubydoc.info/github/ruby-llvm/ruby-llvm/LLVM/ExecutionEngine

[l] https://sites.google.com/site/ijcitcfp/ijcit-content - **SVM + Quantum Circuits Important Paper.**

[THE END]