

# Arm-based Xilinx Zynq UltraScale +™ MPSoC Development Board Probing Using Ruby/mRuby/C Language/QRNG-Devices & Services/CLIPS-ruby Expert System [ES] / E Theorem Prover [ETP] → An Innovative R&D Approach To TEST Next Generation IoT/Image Processing Informatics Frameworks w.r.t → { Space + Medicine + Telecom + High Performance Computing [HPC] Heterogeneous Systems – A Short Technical Communication }

[ Exploring Multi-disciplinary Hardware/Software/Firmware Approach → Designing Advanced Image Processing Algorithms Using Ruby & C/C++ ]

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## [I] Main Idea + Inspiration + Introduction : [ Embedded Vision & Machine Learning + Next Generation IoT Informatics ]

[https://www.xilinx.com/support/documentation/white\\_papers/wp497-multimedia.pdf](https://www.xilinx.com/support/documentation/white_papers/wp497-multimedia.pdf)

<https://www.xilinx.com/products/silicon-devices/soc/zynq-ultrascale-mpsoc.html#productTable>

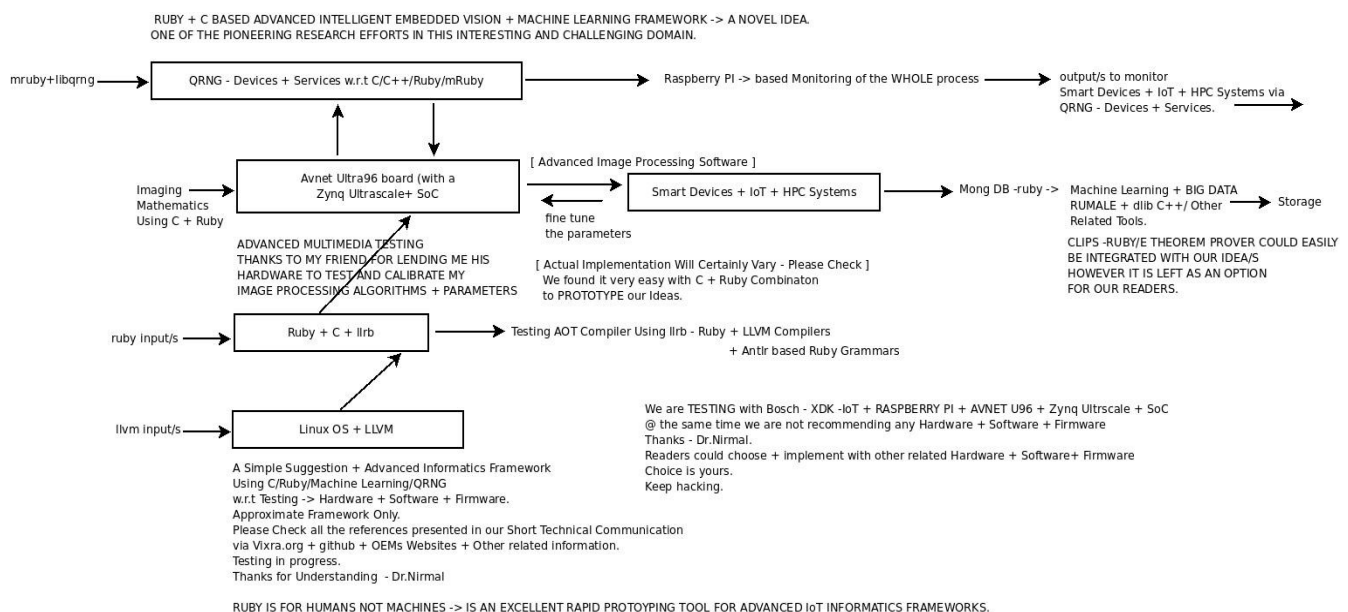
<https://www.avnet.com/wps/portal/us/products/new-product-introductions/npi/ultra96-v2-Industrial-temperature-grade-single-board/>

\*\*\*\*\* Avnet Ultra96-V2 Face Detection Tutorial – Hackster.io → <https://www.hackster.io/karan-kantharia> &&

<https://www.hackster.io/AlbertaBeef>

[ Published May 13, 2020 ]

## [II] R&D Informatics Framework → To TEST U96 Board & its Related Applications :



[ Testing Avnet Ultra96 board (with a Zynq Ultrascale + SoC) → Advanced IoT/Image Processing Informatics R&D Applications ]  
NOT ALL THE DETAILS ARE SHOWN HERE – PLEASE CHECK THE LITERATURE.  
[ Figure I – Our Simple Algorithm I ]

### [III] Important + Useful References :

- [a] <https://www.ruby-lang.org/en/>
- [b] <https://mruby.org/>
- [c] <https://www.idquantique.com/random-number-generation/overview/>
- [d] <https://qrng.physik.hu-berlin.de/download>
- [e] <https://github.com/cremno/mruby-libqrng>
- [f] <https://medium.com/@IuriiGurzhii/yukihiro-matsumoto-ruby-is-designed-for-humans-not-machines-5e16511219c6>
- [g] <https://evrone.com/yukihiro-matsumoto-interview>
- [h] **White Paper: Zynq UltraScale+ MPSoC** → By: Yashu Gosain and Alok Gupta. [ WP497 (v1.0) October 23, 2017 ]
- [i] LIT# Ultra96-V2-HW-User-Guide-rev-1-0-V1 – AVNET.
- [j] <http://avnet.me/ultra96-v2> → For more information please visit.
- [k] <https://in.element14.com/avnet/aes-acc-u96-jtag/usb-to-jtag-uart-pod/dp/2915522>

[IV] **Acknowledgment/s** : Sincere Thanks to all WHO made this happen in my LIFE. Non-Profit R&D.  
Keep Probing Next Generation IoT Informatics.  
Inspiring Others is ALWAYS good.

[V] **Conclusion** : Yukihiro Matsumoto : “**Ruby is designed for humans, not machines**”.We believe it is TRUE.

[ THE END ]