

# R&D of Geometric Cybernetics Framework : w.r.t Python + LLVM + Enzyme + Clifford Algebra + Smart Devices + IoT + AI + HPC Heterogeneous Systems & Related Informatics.

[ LLVM Optimized Python & its Tools for Imaging - Python + Pynq and Ultra96 + Zynq MPSoC ]

Nirmal - Informatics R&D - USA/UK/Israel/BRICS Group of Nations.

Current Member - ante Inst UTD Dallas TX USA.

Contact\_info - [hmfg2014@gmail.com](mailto:hmfg2014@gmail.com)

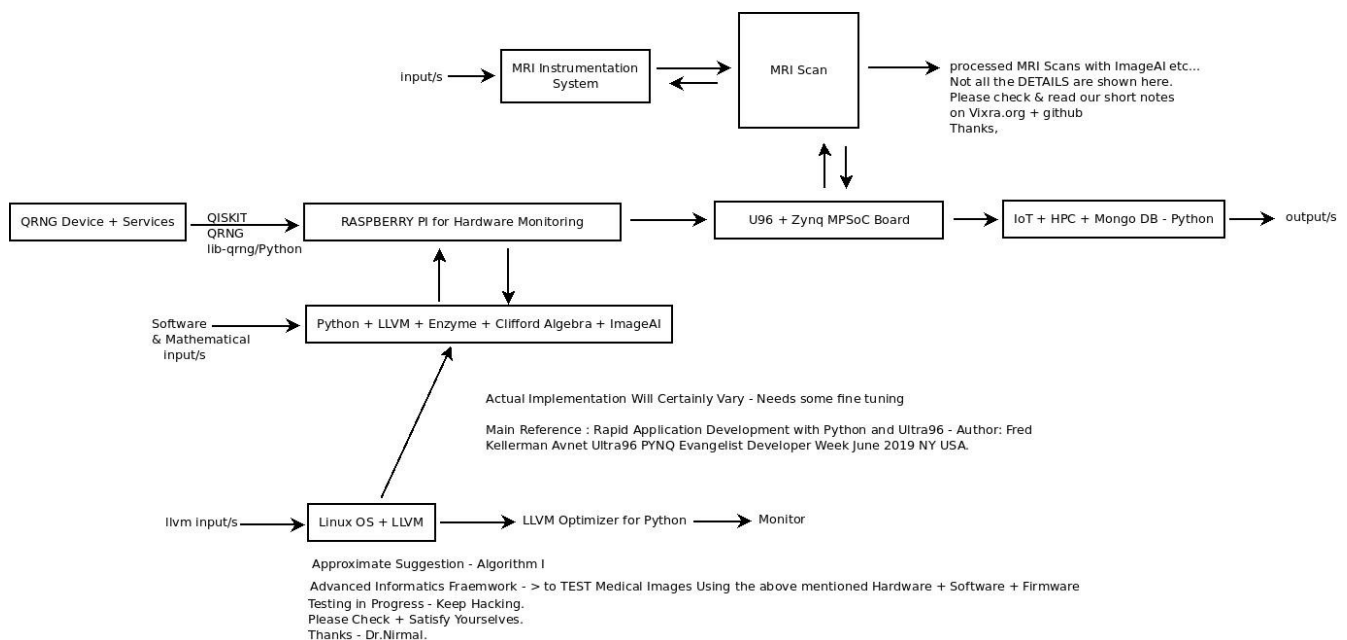
## [I] Idea + Inspiration + Introduction :

Exploring : Image Processing, Computer Vision, Robotics, Neural Networks, Applications of Clifford Geometric Algebra to Perception Action Systems.

**Key words :** Xilinx ; AVNET ; PYNQ ; Ultra 96 + Zynq MPSoC Board ; Python ; Zerynth IoT.

Raspberry PI ; IoT/HPC Systems.

## [II] R&D Informatics Framework Using Python :



[ Figure I - Algorithm I - Avnet + Xilinx Testing Platform w.r.t Medical Images ]

### **[III] Useful + Important References/ :**

[a] Easy AI with Python and PYNQ – Hackster.io - <https://www.hackster.io/wadulisi/easy-ai-with-python-and-pynq-dd4822>

[b] **Rapid Application Development** with **Python and Ultra96** - Author: Fred Kellerman Avnet Ultra96 PYNQ Evangelist Developer Week June 2019 NY USA.

[c] <https://github.com/tejdnk-2019-ShortNotes> && <https://github.com/tejdnk-2019-ShortNotes/2021-Nir-Informatics>

[d] <https://github.com/Xilinx/PYNQ-ComputerVision>

### **[IV] Acknowledgment/s :**

Sincere Thanks to all WHO made this happen in my LIFE.

Non-Profit R&D. Inspire Others Always.

### **[V] Conclusion/s With Future Perspectives :**

Rapid Application Development with Python and Ultra96 is TESTED Using Python + its Tools + AI + QRNG + Clifford Algebra Related Concepts w.r.t Advanced Image Processing Applications.

**[ THE END ]**