Probing Biological Computers like Physarum For Sensing & Communication in the Context of Space Applications R&D Using Haskell based SVM (Support Vector Machines) + PolyFARM (Poly-machine First-order Association Rule Mining) → A Simple Investigation Using Functional Programming(FP).

[Exploring Physarum Machines based Unconventional Computing for Space Applications]

Nirmal Tej Kumar

Independent Consultant Informatics/AI/Imaging/Photonics/Nanotechnology/HPC R&D.
R&D Collaborator USA/UK/Israel/Brazil/India.
Current Member ante Inst,UTD,Dallas,TX,USA.
Contact_info hmfg2014@gmail.com

[I] Abstract+Inspiration + Main Idea :

"A Physarum machine is a programmable amorphous biological computer experimentally implemented in plasmodium Physarum polycephalum. We overview a range of tasks solvable by Physarum machines and speculate on how the Physarum machines could be used in future space missions." [Source - https://uwe-repository.worktribe.com/output/930942]

Main Idea :

Informatics R&D Framework →

{ → Haskell input/s using PolyFARM/Support Vector Machines → Physarum Machines Data [Sensing+Communication on-board CUBESAT System with Electronics +Raspberry PI+Other IoT-Bosch-XDK KIT/HPC interfacing systems/QRNG Devices & Services/VCSELS for the Space Mission/s → Environmental Applications like Aersol/Bio-Aerosol detection using CUBESAT as Multi-disciplinary Space Probe → }

[Figure I – Algorithm I – CUBESAT Instrumentation System or Platform using Physarum Machines as Bio-Computer for Sensing + Communication R&D involving Environmental Information]

Not all the details are shown here.Approximate Idea Only Theoretical Testing in Progress.
Please Check all the Scientific Literature and Satisfy Yourself.Thanks – Dr.Nirmal

[II] Important References :

[a] https://www.haskell.org/ Check for PolyFARM/SVM-Support Vector Machines based on Haskell.
[b] https://people.uwe.ac.uk/Person/AndrewAdamatzky

[c] https://www.aber.ac.uk/en/cs/research/cb/dss/polyfarm/
[d] https://uwe-repository.worktribe.com/output/930942

[e] https://github.com/tejdnk-2019-ShortNotes/Testing-EM-Images
[f] https://iopscience.iop.org/article/10.1088/1361-6463/aa614d/pdf

[III] Acknowledgment/s :

Sincere Thanks to all my Mentors+Friends+Collaborators for their encouragement. Non-Profit R&D.

[THE END]