• A Novel Genetically Optimized Neural Network model, hybrid model used for the detection of breast cancer, achieved a classification accuracy of 99%.
• Enhanced Cluster Validity Index for the Evaluation of Optimal Number of Clusters for Fuzzy C-Means Algorithm, a validity index for clustering of protein sequences. Identify the optimal number of clusters for protein data.
• Advanced Quantum based Binary Neural Network algorithm, which generate a quantum separability plane to classify non linear separable problem. (Liver Disease diagnosis)

Hyperlinks:
http://people.iiti.ac.in/~phd12110102/publication.html
http://people.iiti.ac.in/~phd12120103/publication.html
http://people.iiti.ac.in/~phd13010201003/publication.html
http://iiti.ac.in/people/~artiwari/publications.html
We present a new variant of an existing linear solver (BiCGSTAB). Using our algorithm for model reduction, which is a technique for producing surrogate model of much smaller dimension, gave very good results. We show about 40% savings in the number of matrix-vector products and about 35% savings in runtime.

One practical application where such a challenge arises is micro-electro-mechanical systems (MEMS) design.


Earlier version published as a Max Planck Tech Report.
Fault Resilient High Level Synthesis for Mobile Electronics

Simultaneous design space exploration (DSE) of kc-cycle transient fault-secured datapath and loop unrolling factor (UF) for control data flow graphs (CDFGs) during high-level synthesis is an unsolved problem in the literature. The aforementioned problems are solved with the following specific contributions.

Publication details for this result: http://digital-library.theiet.org/content/journals/10.1049/el.2014.4393

Hyperlink your name to your webpage: www.iiti.ac.in/~asengupt