# Machine Learning Based Power Efficient Approximate 4:2 Compressors for Imprecise Multipliers

# Abstract:

Machine Learning (ML) has been one of the applications of approximate circuits. These circuits, part of approximate computing, can be implemented using either probabilistic pruning or inexact logic minimization. Since low power consumption and smaller silicon area are the critical parameters in portable devices, approximate circuits have been the current topic for discussion. This paper presents a 4:2 compressors with inexact logic minimization by flipping some of the output bits considering efficiency/accuracy into account. The proposed 4:2 compressor has been utilized in an 8 8 Dadda multiplier and average power, area and propagation delay of the architectures have been computed

**Tools used:**

**Xilinx13.2**