Objective of the Thesis

The main objective of this thesis is to create efficient image coders that are reliable and have low computational complexity and memory requirements. To that aim, the proposed objectives for theses are as follows:

- To develop error resilience robust image coder to reduce the packet losses in band limited channel. Based on research objectives the following research problems has been formulated

- To study various image coding techniques and evaluate their performance for band limited channel and to develop algorithm for image coding using wavelets.

- To develop algorithm for image coding using neural networks

- To develop algorithms for image coding using hybrid techniques such as wavelet, neural networks and neuro-fuzzy techniques

Contribution of the Thesis

This thesis aims to develop robust image coders, having reduced complexity and coding efficiency comparable to others image coders. The proposed work in my thesis titled "Development of Robust image Coder" incorporates several novel contributions in the field of image coding. These includes

- **Artifact Removal in JPEG Images using Fuzzy Hybrid System.**

In thesis, chapter 3 address the issue of removing image artifacts at low bit rate that frequently appear in JPEG images. We modify the current JPEG artifacts removal method and used a type-2 fuzzy post filtering approach to eliminate artifacts by maintaining crucial information in the presence of blocking and reigning artifacts.