# MPEG-1 Layer I Matlab Functions

These functions are found in

**FinalProjectMatlab/MPEG1\_L1\_EncDec/**

**MPEG1\_L1\_ASFB(ifile, ofile)**

This implements an MPEG-1 32-band Subband analysis/synthesis filterbank.

**MPEG1\_L1\_EncDec(ifile, ofile, bit\_rate)**

This implements an MPEG-1 Layer I coder

**mark\_embed(ofile, fs, file\_len, message\_str)**

This marks ofile with message\_str

**mark\_MPEG1(ifile, mfile, ofile);**

ifile is input audio signal to mark

mfile is mark file from mark\_embed()

ofile is audio signal with embedded mark

This implements watermark using MPEG-1 Layer I filterbank and MPEG-1 Layer I psychoacoustic model.

**mark\_fft(ifile, mfile, ofile)**

This implements watermark using 50% overlap-add FFT and MPEG-1 Layer I

psychoacoustic model.

**mark\_extract(ofile);**

This extracts and displays the mark message