The ‘Voicebox’ toolkit for Matlab

How to read in a sound file:

[Y,FS,WMODE,FIDX]=readwav('SA1.WAV');

Input: SA1.WAV: name of the file to be read

Output: Y: the sound samples from the file

FS: sampling rate

WMODE, FIDX: further information from the wav header

How to generate a spectrogram:

spgrambw(Y, FS);

spgrambw(Y, FS, ‘’);

Possible parameters: i: inverted grayscale

j: color scale

m: logarithmic (mel-scale) frequency scale

w: also show waveform

Speech analysis using a (gammatone) filterbank:

1. Creating the filter parameters: [b,a,fx,bx,gd]=gammabank(0.35, FS, '', [100 8000]);
2. Perform the filtering on the wav file: filterbank(b,a,Y,gd);

Pitch extraction:

1. fxrapt(Y,FS);
2. fxpefac(Y,FS,'','g',''); or fxpefac(Y,FS,'','G','');
3. Mustafa-Bruce formant tracker (not a part of Voicebox): mb\_ftracker(Y, FS);