

# ECE444 PROJECT PROPOSAL

Student: Abdullah Almosalami  
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Version: 1  
Title: Basic Acoustic Fingerprinting

## PROBLEM STATEMENT

I would like to be able to process someone's speech and be able to identify who this person is out of a set of people "on file". In a sense, "fingerprinting" their speech and then attempting to match that to a known set of fingerprints.

## MY IDEA

I honestly do not know how feasible this is. I imagine I will record several people saying a pre-defined sentence or sentences, having my algorithm process this recording to create a fingerprint of this voice, perhaps based on frequency spectrum (spectral analysis?), and then storing that in memory. Then, on request, have any one of the people on file say that same sentence while the board is "listening" and seeing if it can identify the person. If I get this to work well enough, maybe have the subject say a different sentence and see if my fingerprinting algorithm goes beyond just the sentence and more into the person's general speaking voice.