

Paper Revision Summary

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- *From Updated Proposal feedback:*
 - Moved CNN into Method section
 - Enlarged project flowchart
 - Included discussion on MFCC calculations, including code excerpt
 - Removed mentions of natural language processing – this is speech detection!
- *From Midterm Presentation feedback:*
 - Greatly enlarged the size of the dataset – this seemed to do the trick!
 - Specified the sizes of the training, validation, and testing subsets.
- *From Final Presentation feedback:*
 - Included better discussion about the noise
 - Discussed reason for one-second audio clip – convenience! :)
 - Discussed validation and testing
 - Discussed differences in existing methods
 - Discussed what didn't work and how I got around it
- Reorganized paper into a more logical structure. Headings don't match what was in the proposal, but I feel the paper flows better now. New structure is as follows:
 - Background
 - Motivation
 - Expected Contribution
 - Competing Methods
 - Comparisons with Competing Methods
 - Method
 - Wake Word Selection
 - Code
 - Dataset
 - MFCCs
 - CNN
 - Model training, validation, and testing
 - Model deployment
 - Discussion of Results
 - Conclusions
 - Appendix
 - Data synthesis routine
 - MFCC routine
 - Keras model building routine
 - Real time prediction routine
- Misc. changes
 - Updated wake word after reading paper on 3-syllable wake words
 - Updated MFCC images after code changes

- Updated loss and accuracy plots after code changes
- Changed title – focus now is on model *for* hardware, not model *on* hardware
- Included references to helpful code found online
- Removed image of Smithers cartoon