

Next Steps and possible
directions

Increasing the accuracy of the current model

Current Model Accuracy: 70%

Ways to increase model accuracy:

- More Data (currently the model is only being trained with the RAVDESS data set)
- Changing the learning rate (but not increasing it to the point of overshoot)
- Increase the number of neurons in the neural net (again increasing too much can overfit and create random noise in the data)

Helpful source on increasing accuracy of neural nets:

<https://d4datascience.wordpress.com/2016/09/29/fbf/>

Potential additional data sets

One of the best ways to increase the accuracy of the machine learning model is to increase the quantity of data supplied to the training model:

Datasets:

Speech Accent Archive: <https://www.kaggle.com/rtatman/speech-accent-archive>

TED-Lium Corpus: <https://www.openslr.org/51>

LibriSpeech Ar Corpus: <https://www.openslr.org/12>

Full list of high quality additional datasets: <https://lionbridge.ai/datasets/best-speech-recognition-datasets-for-machine-learning/>

Alternatives to the Alexa Skill

Webapp:

<https://github.com/maelfabien/Multimodal-Emotion-Recognition>

A web app may be one of the best possible alternatives to an alexa skill
(maintaining portability and accessibility without the need for the alexa hardware)

A mobile app:

Another alternative that could offer the same portability and accessibility as a
portable voice assistant