Option A

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Final Project: Option A

Audio Extrapolation

One of the labs you worked on used multi-output, linear regression to extrapolate the missing part of an audio file. The resulting clip was probably a lot more fascinating than the very poor, linear regression accuracy scores. That low accuracy has actually been bugging us, so first and foremost, we're interested in what you might do to get better sounding audio extrapolated, and secondly, a higher scoring result—if possible.

Hints

- Re-read through the course and try to apply the different you've picked up on the way to increase your accuracy.
- Browse through SciKit-Learn's documentation for algorithms, similar to multi-output linear regression, that might give you better results. Don't limit yourself to what we've covered in the course if you chance upon something that seems better. Nothing is withheld from you. You are free to use any technique you can come up with, including manufacturing your own features, using any machine learning algorithms you can find, or even coding up your own algorithms from scratch.
- Review the assignment and look how large your testing set is—is it big enough? If you need more data, download audacity, learn how to use it, and then record yourself! Feel free to share GitHub links to your own audio 'digits' libraries with each other.
- If you haven't already done this, you should try recording yourself saying '*zero*' in a half-second audio clip. Replace one of the training audio files from your lab assignment with your recording, and then hardcode the random_idx value to that clip. That way you'll be able to hear your algorithm attempt to complete your own voice's missing audio!
- Discuss your ideas on the Forum... but don't post any solutions! If you're dying to post something, post a link to your extrapolated audio output for others to hear, or share your digits recording library.