

Discussion of:
“A Dynamic Model of Speech for the Social
Sciences”
by Knox and Lucas

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Numbers

`www.incaglossary.org/appc_files/paint2.png`

Text

`pds.exblog.jp/pds/1/200712/10/42/a0100742_10393911.jpg`

Audio

By Levin C. Handy (per <http://hdl.loc.gov/loc.pnp/cwpbh.04326>) [Public domain], via Wikimedia Commons

What's Next?

`www.neweurope.eu/wp-content/uploads/2015/04/
120-Years-of-Cinema.jpg`

Method

- 1 Create features from raw audio \rightsquigarrow “audio-as-data”
- 2 Generative model:
 - 1 Each utterance has its emotional state
 - 2 Emotional states follow a Markov process
 - 3 Each “instant” within an utterance has its latent sound
 - 4 The latent sound is a Markov process
 - 5 Audio features in an instant depend on the latent sound and the emotional state
- 3 Estimation
 - 1 Two-step estimation of emotional states:
 - 1 The Baum-Welch algorithm for parameter estimation using training utterances with known emotional states
 - 2 Estimation of unknown emotional states using estimated parameter in Step 1 and local information
 - 2 Estimation of transition parameters using the estimated emotional states

Questions and Comments

- Features and emotions
 - Why are the features good to capture emotions?
 - Any known relations between the features and emotions?
 - Constraints on the feature under a particular emotion
- Hidden states and emotions
 - Fully Bayesian estimation approach
 - 2-mode SSAM for detecting a particular emotion?
- Politics and audio
 - In politics, what is special about audio?
 - Expressing one's own emotions or invoking others' emotions