

Multilingual Speech Processing: Context-Dependent Models

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COGNITIVE SYSTEMS LA



- Context-independent model already trained and available
- Load context-independent model from file
- Calculate paths for the training audio data
- Initialize the context-dependent model with these paths
- Build the context-clustering tree





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Initialization Parameters



Parameter	English 1	English 2	French
Nr. of Gaussians per Model	10	_	10
Clustering Context	1	_	2
Max. number of leaves	2000	_	2000
Min. number of samples	500	_	1000

Training



- Run iterations of training as in the context-independent case
- But only once for the complete context-dependent model
- Number of training iterations:
 - French: 5
 - English: 5



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Decoding



- The decoding process was the same as with the context-independent model
- Average word error rates for English Team:
 - Development Set: 44%
 - Recorded Data: 84%

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- Reason was that the models were not properly initialized
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- Some problems occured because we didn't know what BioKIT was doing
- It would have been nice to implement some of the used algorithms



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