

Fundamentals of Speech Recognition

Proposed Term Projects

Generic Project: Matching HMMs to observed data training sequences

Other Projects:

1. Isolated digit recognizer – speaker –trained
2. Isolated digit recognizer – speaker independent (TI Digits database)
3. Robust method for digit recognition in noise – aurora database with TI Digits
4. Isolated word recognizer – speaker-trained for small vocabulary (control of VCR options, control of automobile environments)
5. Isolated word recognizer – speaker independent for small vocabulary (same as #4)
6. Isolated word recognizer – speaker-trained for medium vocabulary (airlines arrivals and departure checking)
7. Isolated word recognizer – speaker independent for medium vocabulary
8. Connected digit recognizer – speaker trained
9. Connected digit recognizer – speaker independent, TI digits
10. Connected word recognizer – speaker trained for medium vocabulary
11. Connected word recognizer – speaker independent for medium vocabulary
12. Continuous speech recognizer – speaker-trained for large vocabulary
13. Phoneme recognizer – speaker independent using TIMIT database
14. Vocal tract area function to spectra and formants
15. Speaker verification system
16. Text-to-speech for digit strings