

# Digital Speech Processing

## Homework 1 - HMM

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### 1 Execution Environment

- **Environment:**  
Linux Ubuntu X86\_64
- **Compile:**  
\$ make clean  
\$ make all
- **Execute:**  
\$ ./train iteration model\_init.txt seq\_model\_01.txt model\_01.txt  
\$ ./test modellist.txt testing\_data.txt result.txt

### 2 Result

- **Parameters:**  
# Iteration = 2000  
Initial model = model\_init.txt
- **Accuracy:**  
Accuracy of testing\_data1.txt = 0.8696

### 3 Experiment

I built the models with different numbers of iterations and calculate the accuracy of testing\_data1.txt. The result is shown below:

# Iterations	10	50	100	300	500	1000	1500	2000	2500	3000	3500
Accuracy	54.08	82.8	81	84.88	85.6	86.96	87	86.96	86.8	86.76	86.76

