

# ASR Lab Results

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# Overview

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# Testing Environment

## Hardware:

- ▶ Intel i5-4690K @ 3.5GHz, Quad Core, SSE2 registers
- ▶ 16GB DDR3 1333MHz RAM

## Parallelization with OpenMP:

- ▶ In search
- ▶ In neural network operations

# GMM Tuning: EM Parameters

## Basic setup:

- ▶ Lexicon consists of 106 states
- ▶ Exact computation of the linear segmentation
- ▶ 6 EM steps
- ▶ 4 density splits

## Tunable properties:

- ▶ Minimum observations per density
- ▶ Pooling type
- ▶ Maximum approximation vs. sum approach

**Tuning is based on the likelihood of the training data**

# GMM Tuning: EM Parameters

**Graph of the AM score after each split for pooling type and max approx.. In total 6 curves.**

## Remarks:

- ▶ **Best performance by the model without pooling and with the max. approximation**
- ▶ **Minimum number of observations per density did not influence the score much**
- ▶ **Due to a software bug, the sum approach does not work properly after the 4th split**

# Last week

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**Thank you for your attention**

**Ilya Sklyar, Konstantin Kromberg, Miguel Graça**

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