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| **Speech Processing** | **KALDI Project** |
| Dilkasha Tarannum | 21100200 |
| Nazish Naeem | 21100274 |
| Shoaib Imran | 21100167 |
| Mumtaz Ahmad Awan | 21100174 |
| Wasif Nadeem | 21100296 |

1. **Single Speaker Experiments with LM1.gz**

**Experiment No.** 1

**Experiment Type:** Single\_Dilkasha

**Train/Test Details:** Train dataset has 600 sentences. Test dataset has 108 sentences. We used LM1.gz while decoding. Number of leaves = 2000 and Gaussians = 10000. Speaker was Dilkasha (21100200)

**Best WER:** 79.31

**Experiment No.** 2

**Experiment Type:** Single\_Nazish

**Train/Test Details:** Train dataset has 600 sentences. Test dataset has 108 sentences. We used LM1.gz while decoding. Number of leaves = 2000 and Gaussians = 10000. Speaker was Nazish (21100274)

**Best WER:** 83.70

**Experiment No.** 3

**Experiment Type:** Single\_Shoaib

**Train/Test Details:** Train dataset has 600 sentences. Test dataset has 108 sentences. We used LM1.gz while decoding. Number of leaves = 2000 and Gaussians = 10000. Speaker was Shoaib (21100167)

**Best WER:** 76.40

**Experiment No.** 4

**Experiment Type:** Single\_Mumtaz

**Train/Test Details:** Train dataset has 600 sentences. Test dataset has 108 sentences. We used LM1.gz while decoding. Number of leaves = 2000 and Gaussians = 10000. Speaker was Mumtaz (21100174)

**Best WER:** 85.13

1. **Multiple Speaker Experiments with LM1.gz**

**Experiment No.** 5

**Experiment Type:** Multiple\_Each600

**Train/Test Details:** Train dataset has 2400 sentences. Test dataset has 432 sentences. We used LM1.gz while decoding. Number of leaves = 2000 and Gaussians = 10000. Speakers were Mumtaz (21100174), Nazish (21100274), Dilkasha (21100200), Shoaib (21100167). Number of Speakers nj = 4

**Best WER:** 75.28

1. **Multiple Speaker Experiments with Leave-one-out and LM2.gz**

**Experiment No.** 6

**Experiment Type:** Multiple\_Leaveoneout\_Dilkasha

**Train/Test Details:** Train dataset has 2124 sentences. Test dataset has 708 sentences. We used LM2.gz while decoding. Number of leaves = 2000 and Gaussians = 10000. Train Speakers were Nazish (21100274), Mumtaz (21100174), Shoaib (21100167). Test speaker was Dilkasha (21100200).

**Best WER:** 6.04

**Experiment No.** 7

**Experiment Type:** Multiple\_Leaveoneout\_Nazish

**Train/Test Details:** Train dataset has 2124 sentences. Test dataset has 708 sentences. We used LM2.gz while decoding. Number of leaves = 2000 and Gaussians = 10000. Train Speakers were Dilkasha (21100200), Mumtaz (21100174), Shoaib (21100167). Test speaker was Nazish (21100274).

**Best WER:** 7.43

**Experiment No.** 8

**Experiment Type:** Multiple\_Leaveoneout\_Shoaib

**Train/Test Details:** Train dataset has 2124 sentences. Test dataset has 708 sentences. We used LM2.gz while decoding. Number of leaves = 2000 and Gaussians = 10000. Train Speakers were Dilkasha (21100200), Mumtaz (21100174), Nazish (21100274). Test speaker was Shoaib (21100167).

**Best WER:** 7.01

**Experiment No.** 9

**Experiment Type:** Multiple\_Leaveoneout\_Mumtaz

**Train/Test Details:** Train dataset has 2124 sentences. Test dataset has 708 sentences. We used LM2.gz while decoding. Number of leaves = 2000 and Gaussians = 10000. Train Speakers were Dilkasha (21100200), Shoaib (21100167), Nazish (21100274). Test speaker was Mumtaz (21100174).

**Best WER:** 8.21