# AUTOMATIC TRANSCRIPTION OF NORWEGIAN MEDICAL EMERGENCY CALLS: FINE-TUNING NB-WHISPER

Emergency medical communication centers are crucial in recognizing time-critical conditions like stroke, where accurate and rapid response is essential. Currently, analyzing these calls requires time-consuming manual transcription. Automatic speech recognition (ASR) could support emergency call operations but requires high accuracy in the specific domain of medical emergency calls.

OBJECTIVE

Finetuning the transcription model nb-Whisper for emergency calls.

Risk
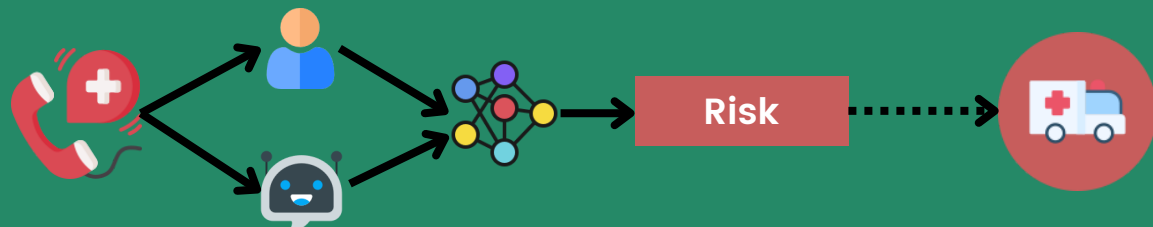
DATA

- 450 audio files
- Anonymised manual transcription

- 9 audio files
- manual transcription

When are you born? {DATE}. Do you remember the last five digits? {ID} ... do you have pain... an ambulance is directed to {ADD}..

When are you born? XX.XX. Do you remember the last five digits? ABCDE ... do you have pain... an ambulance is directed to YYYYYYY..

DATA PROCESSING

30 seconds

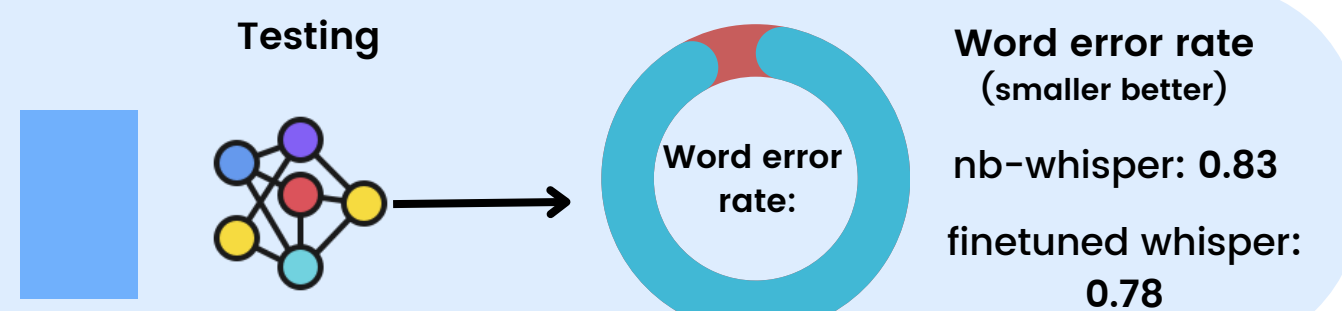AMK, good evening..

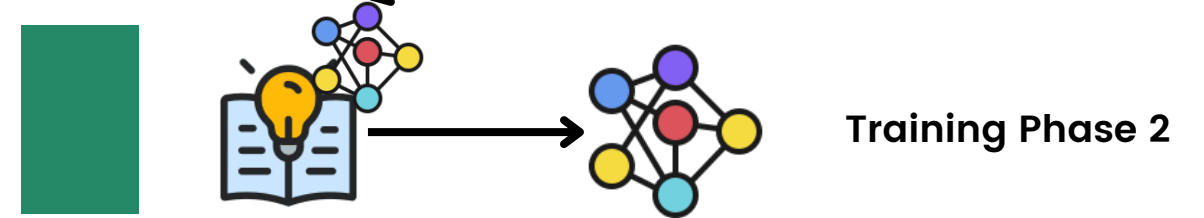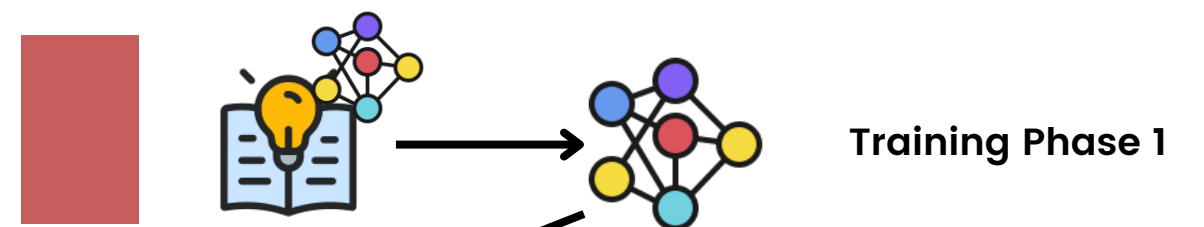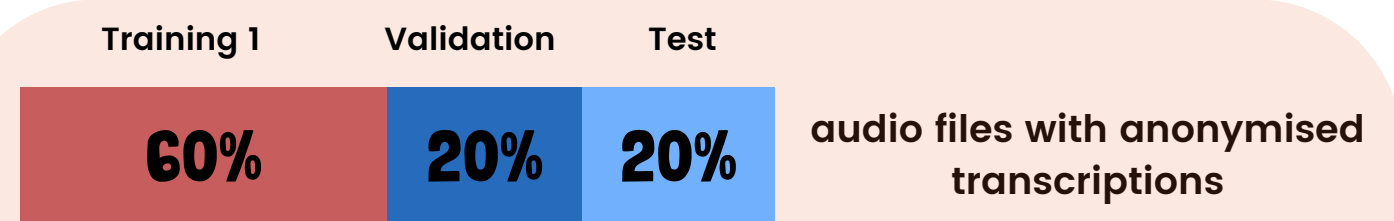I cannot lift my ...

An ambulance is coming

Yes, but where do you have pain...

Do you take medications?

model Input   (desired) model output

AMK, good evening

I cannot lift my arm

when was last time you...

An ambulance is coming

TRAINING

Training 1	Validation	Test
60%	20%	20%

audio files with anonymised transcriptions

Training 2

100%

audio files with not anonymised transcriptions

Training Phase 1

Training Phase 2

Testing

Word error rate:

Word error rate (smaller better)

nb-whisper: 0.83

finetuned whisper: 0.78

RESULTS/FINDINGS

nb-whisper:
Are you a nurse there? Yes. Which patient are you calling for? Yes.

finetuned whisper:
Are you a nurse there? Yes. Which patient are you calling for? Her ID is XXXXXX. Yes.

nb-whisper: jrmk villeggesen hei legeåsen...
finetuned whisper: AMK, innleggelsen. Hei, legevakten.

nb-whisper: hei lille president telefon ja
finetuned whisper: hei det er medisinsk nødtelefon ja

nb-whisper: ... do you have pain? yes...

finetuned whisper: ... do you have pain? let me see... yes mm no mmm maybe mmm yes ..

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