# Sign Segmentation with Changepoint-Modulated Pseudo-Labelling Supplementary Material

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This document provides further ablations on PHOENIX14 (Sec. A) and further interpretation on the results including the supplemental video and a discussion on motion blur (Sec. B).

## A. Additional ablations

**Effect of the CMPL components.** Tab. A.1 shows the influence of the two components of the proposed CMPL method. We observe a gain of approximately 5 percent with the insertion of the changepoints. The refinement stage provides a further 1-2 percent of improvement.

**Multiple iterations.** We report results for multiple iterations of pseudo-label training, i.e., finetuning with the pseudo-labels obtained through the previous iteration. Tab. A.2 summarises the results. Performance does not improve with more iterations when using pseudo-labels or CMPL.

## B. Qualitative results

**Supplemental video.** We refer to the supplemental video on our project webpage to assess the sign segmentation performance qualitatively. We identify success and failure cases on all datasets used in this work.

**Motion blur.** We conduct a study on the correlation of model performance and motion blur. For this, we use the number of detected hand keypoints as a proxy for motion blur. The assumption is, that the keypoint detection works better for sharper images. This could be confirmed in a quantitative evaluation. Since our metrics work on a video and not frame-level we average the blur score over the video. We calculate the correlation coefficient $r$ and only find a very weak correlation with the mF1B score on BSLCORPUS ($r = 0.09$).

| Fusion strategies | mF1B | mF1S |
|---|---|---|
| Source-only | $46.75_{\pm 1.2}$ | $32.29_{\pm 0.3}$ |
| adaptation protocol: *inductive* | | |
| insertion | $52.01_{\pm 0.5}$ | $32.83_{\pm 0.6}$ |
| insertion + refinement (CMPL) | $\mathbf{53.57}_{\pm \mathbf{0.7}}$ | $\mathbf{33.82}_{\pm \mathbf{0.0}}$ |
| adaptation protocol: *transductive* | | |
| insertion | $51.37_{\pm 0.5}$ | $32.70_{\pm 1.4}$ |
| insertion + refinement (CMPL) | $\mathbf{53.53}_{\pm \mathbf{0.1}}$ | $\mathbf{32.93}_{\pm \mathbf{0.9}}$ |

Table A.1. **Impact of the two components of CMPL on PHOENIX14:** We provide an ablation which shows the impact of the insertion and refinement stage. The insertion of the changepoints gives the largest boost. The refinement stage provides further improvement.

| Iteration | mF1B | mF1S |
|---|---|---|
| PL 1 | $47.94_{\pm 1.0}$ | $32.45_{\pm 0.3}$ |
| PL 2 | $47.79_{\pm 0.7}$ | $32.10_{\pm 0.4}$ |
| PL 3 | $47.93_{\pm 0.9}$ | $31.80_{\pm 0.2}$ |
| CMPL 1 | $\mathbf{53.57}_{\pm \mathbf{0.7}}$ | $33.82_{\pm 0.0}$ |
| CMPL 2 | $53.56_{\pm 1.1}$ | $34.27_{\pm 0.7}$ |

Table A.2. **Multiple iterations of pseudo training on PHOENIX14:** We show that multiple iterations improve the results for training with only pseudo-labels but can not reach the performance of CMPL for which only one iteration is sufficient.