Person Identification from Pose Estimates in Sign Language

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Sign language recognition models require extensive training data. Effectively anonymizing such data remains a complex endeavor due to the crucial role of facial features. While pose estimation techniques have traditionally been considered a means of yielding anonymized data, the findings reported in this paper challenge this assumption: We conducted a study involving Swiss German Sign Language (DSGS) users, presenting them with pose estimates from DSGSvideo samples. The participants' task was to identify the signers' language levels and identities from skeletal representations. Our findings reveal that the extent to which sign language users were capable of recognizing familiar signers depended on their language level, with deaf experts achieving the highest accuracy. We demonstrate that an automatic classifier obtains comparable results in multi-label language level recognition (F1=0.64) and person identification (F1=0.31). This emphasizes the need to reconsider the fundamentals of video anonymization towards guaranteeing sign language users' privacy.