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SignSense: AI Framework for Sign Language Recognition

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Abstract: *Sign Language recognition is a pioneering framework designed to advance the field of Sign Language Recognition (SLR) through the innovative application of ensemble deep learning models. The primary goal of this research is to significantly improve the accuracy, resilience and interpretability of SLR systems. Leveraging the unique features of ResNet within an ensemble learning paradigm. The key component of InceptionResNetv2 architecture is its deep and effective feature extraction capabilities. The utilization of InceptionResNet model enhances the model ability to capture intricate details crucial for accurate sign language recognition. This framework is also to scale seamlessly, accommodating an expanding vocabulary of signs, diverse users and dynamic environmental conditions without compromising performance.*

Keywords: Deep learning, computer vision, explainable AI, Sign Explainer, classification, sign language, technological development

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