

## **Analyzing multimodal data with the MULTIDATA EU platform for AI-powered video processing**

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### **ABSTRACT**

MULTIDATA (<https://www.multi-data.eu/>) is an online platform for the study of multimodal communication, funded by an E+ KA220 HED project coordinated by the University of Murcia, with Radboud Nijmegen and FAU Erlangen-Nürnberg as partners. We offer an AI-based pipeline to analyze speech and gesture data from videos, as well as other resources for developing audiovisual collections and exploiting them for education, research, and professional applications. Our resources come with explanatory tutorials and guidelines, as well as with didactic materials for the use of multimodal data across disciplines. We also host a forum for exchanging ideas, resources, and feedback on all things multimodal. This presentation will demonstrate our pipeline for automatic speech transcription and alignment, acoustic analysis of speech, and body keypoint detection for the reconstruction of gesture trajectories and for pose estimation. I will also showcase some of the research in progress at my lab using these and other related AI tools, within the MULTIFLOW project ([https://daedalus.um.es/?page\\_id=32](https://daedalus.um.es/?page_id=32)), funded by a Spanish national grant. This project uses the MULTIDATA pipeline and other tools to build multimodal linguistic corpora and carry out big-data analysis of gesture and prosody co-occurring with specific linguistic patterns.

**Keywords:** Multidata; Video analysis; AI; Gestures.