BEHAVIOR RESEARCH METHODS

MaskingOPS: A Tutorial for Navigating Video De-identification and Analytic Utility Workflows in Behavioral Research

Journal:	*Behavior Research Methods*
Manuscript ID	BR-TSC-26-051
Manuscript Type:	Tutorial Special Collection
Date Submitted by the Author:	02-Apr-2026
Complete List of Authors:	Owoyele, Babajide; Hasso-Plattner-Institut fur Digital Engineering gGmbH, Artificial Intelligence and Intelligent Systems; Radboud Universiteit, Center for Language Studies Schilling, Martin; Hasso-Plattner-Institut fur Digital Engineering gGmbH, Artificial Intelligence and Intelligent Systems Riedel, Tim; Hasso-Plattner-Institut fur Digital Engineering gGmbH, Artificial Intelligence and Intelligent Systems Shaikh, Sharjeel; Hasso-Plattner-Institut fur Digital Engineering gGmbH, Artificial Intelligence and Intelligent Systems Zafari, Zainab; Hasso-Plattner-Institut fur Digital Engineering gGmbH, Artificial Intelligence and Intelligent Systems Pouw, Wim; Tilburg University, Department of Cognitive Science and Artificial Intelligence de Melo, Gerard; Hasso-Plattner-Institut fur Digital Engineering gGmbH, Artificial Intelligence and Intelligent Systems

MaskingOPS: A Tutorial for Navigating Video De-identification and Analytic Utility Workflows in Behavioral Research

Babajide Alamu Owoyele[1,2,*] Martin Schilling[2] Tim Riedel[2] Sharjeel Shaik[2,3]
Zainab Zafari[2,3] Wim Pouw[4] Gerard de Melo[2,3]

[1]Centre for Language Studies, Radboud University, Nijmegen, The Netherlands
[2]Hasso Plattner Institute, University of Potsdam, Potsdam, Germany
[3]University of Potsdam, Potsdam, Germany
[4]Department of Cognitive Science and Artificial Intelligence, Tilburg University, Tilburg, The Netherlands

*Corresponding author: Babajide Alamu Owoyele
Email: babajide.owoyele@hpi.de

Running Head: MaskingOPS: Video De-identification and Analytic Utility

Word Count: ∼12,000 (including references and appendices)

Article Type: Tutorial Paper

MaskingOPS: A Tutorial for Navigating Video De-identification and Analytic Utility Workflows in Behavioral Research

Babajide Alamu Owoyele[1,2*], Martin Schilling[2], Tim Riedel[2], Sharjeel Shaik[2,3], Zainab Zafari[2,3], Wim Pouw[4], Gerard de Melo[2,3]

[1*]Centre for Language Studies, Radboud University, Nijmegen, The Netherlands.
[2]Hasso Plattner Institute, University of Potsdam, Potsdam, Germany.
[3]University of Potsdam, Potsdam, Germany.
[4]Tilburg University, Tilburg, The Netherlands.

*Corresponding author(s). E-mail(s): babajide.owoyele@hpi.de;
Contributing authors: martin.schilling@student.hpi.de;
tim.riedel@hpi.de; sharjeel.shaik@uni-potsdam.de; zainab.zafari@hpi.de;
w.pouw@tilburguniversity.edu; gerard.demelo@hpi.de;

Abstract

Video data is central to behavioral research across psychology, communication science, and human-computer interaction, yet its use raises significant privacy concerns that limit data sharing and reproducibility. Researchers face two interconnected operational challenges: (1) how to de-identify video recordings while preserving behaviorally relevant information, and (2) how to verify that de-identification has not compromised downstream analyses such as pose estimation. This tutorial introduces MaskingOPS, an integrated workflow combining MaskAnyone—a flexible video de-identification framework combining YOLO, SAM2, and pose estimators (MediaPipe, OpenPose)—with MaskBench, an open-source benchmarking framework for evaluating pose estimation quality on both raw and masked videos. We provide step-by-step guidance for the complete pipeline: from video upload and masking strategy selection, through de-identification processing, to systematic assessment of analytic utility using standardized accuracy and kinematic metrics. Through worked examples on naturalistic video data, we demonstrate that Gaussian blurring preserves 88–95% of pose estimation quality (PCK) across estimators, while pixelation and solid fills