Dataset: 3DPW (3D Poses in the Wild)

Link: 3DPW Dataset – MPI (https://virtualhumans.mpi-inf.mpg.de/3DPW/)

Summary:
3DPW is a real-world dataset for 3D human pose estimation. It includes annotated video sequences of people walking, running, and performing daily activities, with accurate 2D/3D joint positions and 3D body meshes.

Key Features:
-60+ video sequences recorded in outdoor scenes
-Structured as JSON files with frame-by-frame keypoints (3D coordinates of body parts)
-SMPL-based full-body 3D meshes
-Contains real-world walking scenes with accurate 3D pose annotations
-Provided in JSON format

Key advantages:
-Well-organized structure
-Convenient annotations
-Real-world scenarios

Key Metrics (Lower = Better)

Model	ADE (mm)	FDE (mm)	VIM
LSTM-VAE	42.1	67.3	0.81
ST-GCN	39.8	63.2	0.76

Error Rates in Pose Prediction (3DPW Dataset)

Standard Benchmark Errors
Good Model:
ADE: 40-50mm - FDE: 65-75mm - VIM: 0.8-1.2

Critical Failure Thresholds
-ADE >100mm → Unusable predictions
-FDE >150mm → Complete trajectory failure
-VIM >2.0 → Physically impossible motions

Data-Specific Error Sources
-Annotation Errors: ~3% frames in 3DPW have minor labeling mistakes
-Occlusion Errors: 5-8% accuracy drop in crowded scenes
-Temporal Jumps: Sudden pose changes cause 10-15mm error spikes