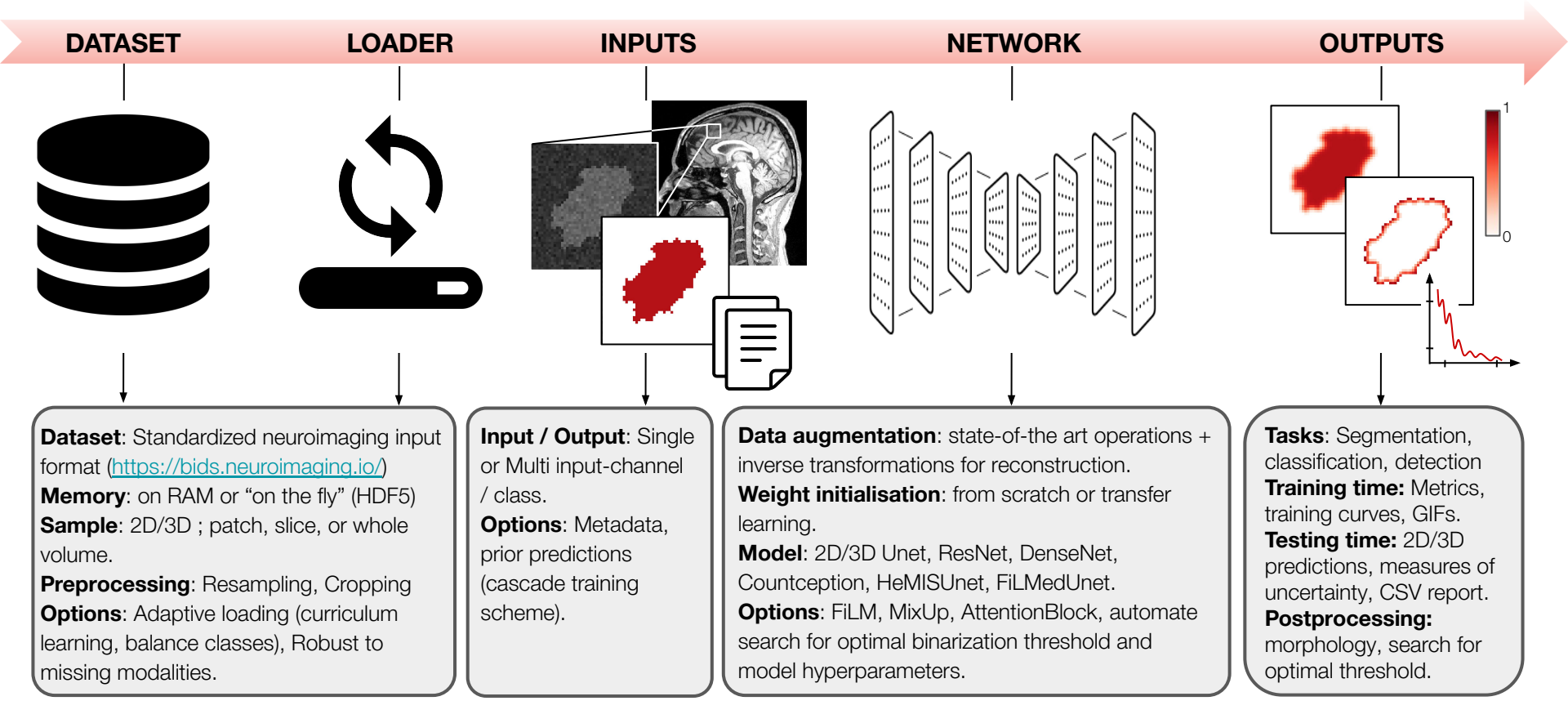
DATASET
LOADER
INPUTS
NETWORK
OUTPUTS
1
0
Dataset: Standardized neuroimaging input format (https://bids.neuroimaging.io/)
Memory: on RAM or “on the fly” (HDF5)
Sample: 2D/3D ; patch, slice, or whole volume.
Preprocessing: Resampling, Cropping
Options: Adaptive loading (curriculum learning, balance classes), Robust to missing modalities.
Input / Output: Single or Multi input-channel / class.
Options: Metadata, prior predictions (cascade training scheme).
Data augmentation: state-of-the art operations + inverse transformations for reconstruction.
Weight initialisation: from scratch or transfer learning.
Model: 2D/3D Unet, ResNet, DenseNet, Countception, HeMISUnet, FiLMedUnet.
Options: FiLM, MixUp, AttentionBlock, automate search for optimal binarization threshold and model hyperparameters.
Tasks: Segmentation, classification, detection
Training time: Metrics, training curves, GIFs.
Testing time: 2D/3D predictions, measures of uncertainty, CSV report.
Postprocessing: morphology, search for optimal threshold.