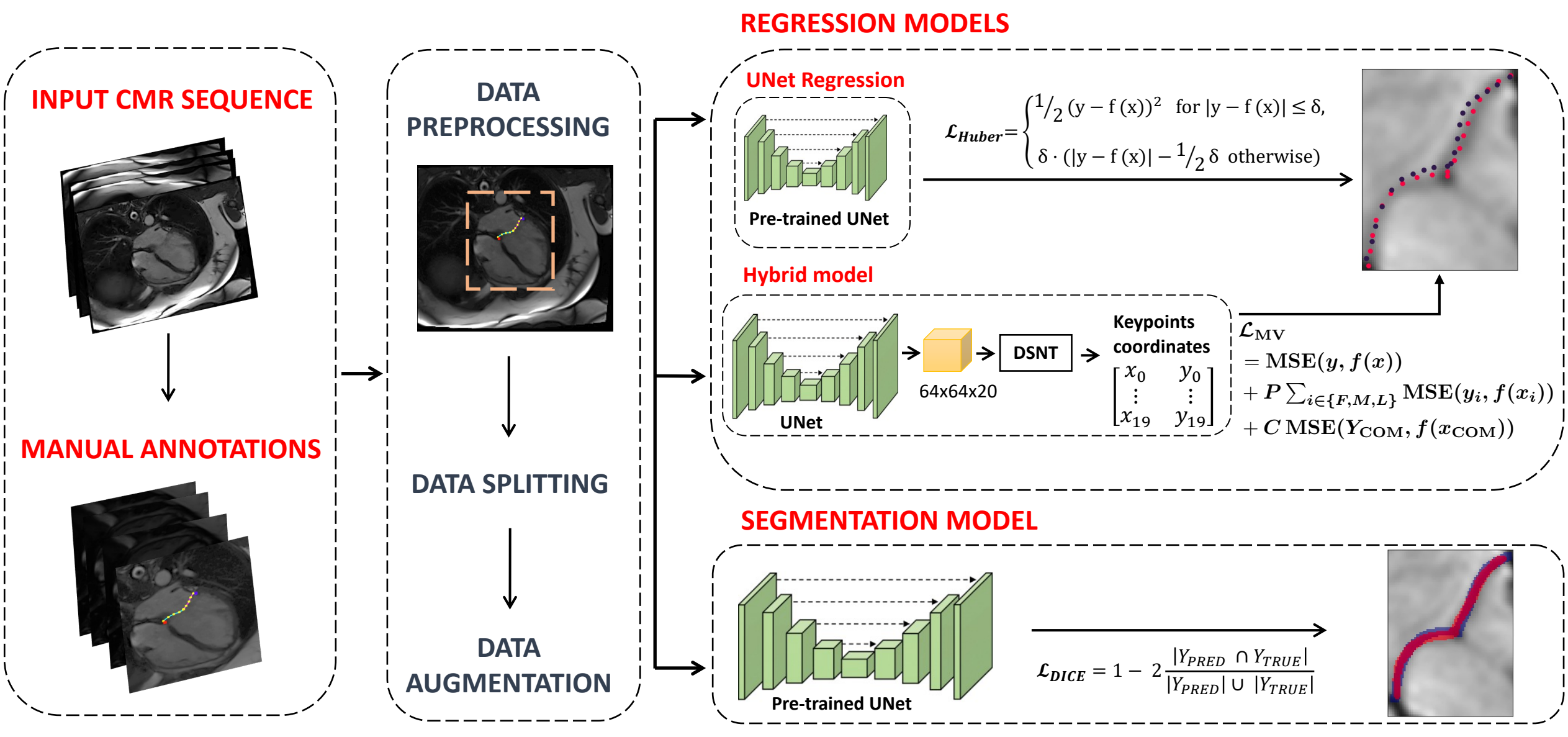
REGRESSION MODELS
INPUT CMR SEQUENCE
MANUAL ANNOTATIONS
DATA PREPROCESSING
DATA SPLITTING
DATA AUGMENTATION
UNet Regression
Pre-trained UNet
$\mathcal{L}_{Huber} = \begin{cases} 1/2\,(y - f(x))^2 & \text{for } |y - f(x)| \le \delta, \\ \delta \cdot (|y - f(x)| - 1/2\,\delta & \text{otherwise} \end{cases}$
Hybrid model
UNet
64x64x20
DSNT
Keypoints coordinates
$\begin{bmatrix} x_0 & y_0 \\ \vdots & \vdots \\ x_{19} & y_{19} \end{bmatrix}$
$\mathcal{L}_{\mathrm{MV}} = \mathrm{MSE}(y, f(x)) + P \sum_{i \in \{F,M,L\}} \mathrm{MSE}(y_i, f(x_i)) + C\,\mathrm{MSE}(Y_{\mathrm{COM}}, f(x_{\mathrm{COM}}))$
SEGMENTATION MODEL
Pre-trained UNet
$\mathcal{L}_{DICE} = 1 - 2\,\frac{|Y_{PRED} \cap Y_{TRUE}|}{|Y_{PRED}| \cup |Y_{TRUE}|}$