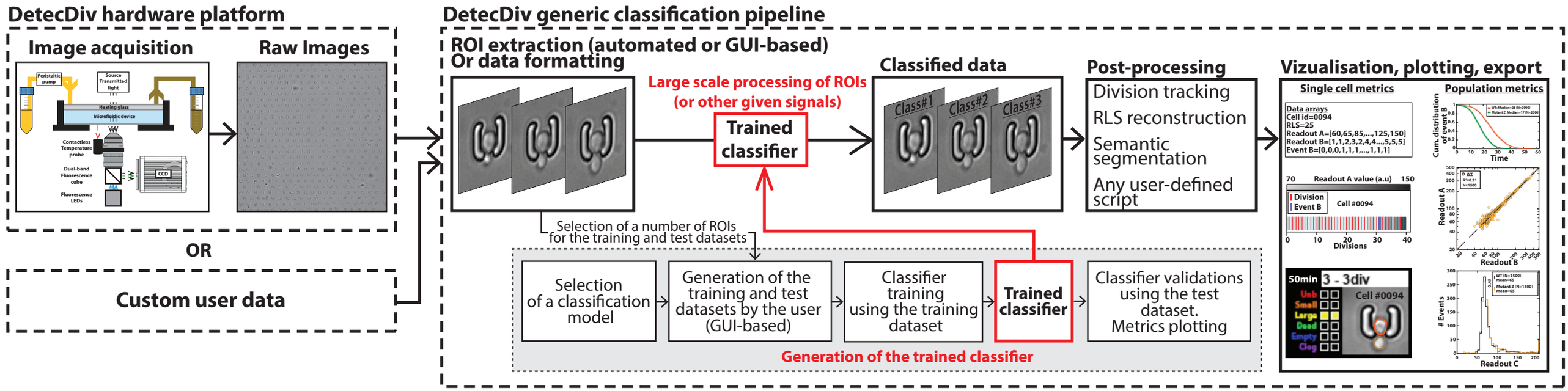
DetecDiv workflow



Available classification models

Type	Description	Input	Output	Reference figures in article
Models used in the present article				
Image classification	CNN : GoogleNet, Resnet50, etc.	Individual images	M user-defined classes	Fig. 1 ("CNN"), S2 and S3. Table T2
Image sequence classification	Combined CNN/LSTM network for sequence-to-sequence classification	Sequence of N images	N (frames) x M (user-defined classes)	Fig. 1 ("CNN/LSTM"), S2 and S3. Table T2
Timeseries classification	LSTM network for sequence-to-sequence classification	N (frames) x L vector	N (frames) x M (user-defined classes)	Fig. 2A and S4. Table T3
Pixel classification (semantic segmentation)	Deeplab v3+ (with GoogleNet, Resnet50, etc. encoder)	Individual images	Labeled images (M user - defined classes)	Fig. 2B, 2C, S6-8. Table T4 and T5
Additional models available				
Image sequence classification	Combined CNN/LSTM network for sequence-to-one classification	Sequence of N images	M (user-defined classes)	N/A
Image regression	CNN : GoogleNet, Resnet50, etc.	Individual images	1 number	N/A
Image sequence regression	Combined CNN/LSTM network for sequence-to-sequence regression	Sequence of N images	N (frames) x 1 number	N/A
Timeseries classification	LSTM network for sequence-to-one classification	N (frames) x L vector	M (user-defined classes)	N/A
Timeseries regression	LSTM network for sequence-to-sequence regression	N (frames) x L vector	N (frames) x 1 number	N/A
Timeseries regression	LSTM network for sequence-to-one regression	N (frames) x L vector	1 number	N/A