

Supplementary material – Annex 1

TABLE 1. Motivation details

Motivations	Frequency
Avoid data privacy challenges	4
Avoid exposure to ionizing energy and aiding non-experts in diagnosis at the same time.	1
Avoid overfitting	1
Avoid time consuming data collection and labelling.	1
Building a benchmark database for evaluation purposes	1
Capturing the complexity of individual patients and facilitate the development of therapeutic interventions	1
Challenging data collection	2
Data anonymization	1
Data loss prevention	1
Data scarcity due to limited samples (low disease prevalence)	15
Data sharing	1
De-identification	1
Difficulty in collecting large consented datasets of highly vulnerable patients under demanding care plans (Data sharing and privacy).	1
Disease simulation and surgery planning	1
Eliminate the need for radioactive tracers	1
Enable comparison between different methods	1
Enhancing dataset's quality	2
Generate population-based datasets to test algorithms in a variety of virtual scenarios, taking into account the high costs and safety issues associated with real clinical trials.	1
Handling missing data	2
High heterogeneity between tumours	1
High Unbalanced datasets	15
Huge datasets are required by CNNs	1
Improving cancer detection, diagnosis, tumour profiling, treatment planning and monitoring	1
Improving medical image segmentation, object detection and surgical planning	1
Improving ML Systems	1
Improving the performance of diagnostic tools	1
Improving the quality of images	1
Improving the quality of the data	1
Improving the utility of TDOCT scans	1
Lack of large annotated databases available	1
Low data accessibility due to regulatory frameworks, ethics and privacy (GDPR)	1
Low data quality	1
Missing data annotation	1
Missing data labels	2
Need of improving diagnostics performance	1
Non invasive method of capturing organ-specific and global attributes of fetal circulations	1
Privacy preservation	1
Provide complementary information on soft and bone tissues.	1
Simulating realistic scenarios	1
Testing models under controlled conditions	1
Testing of different AI Models	2
The use of typical data augmentation techniques (scaling, flipping, rotation, translation, ...) in medical imaging can create distortion of the shape of organs and change the relative position of organs.	1
Time-consuming data labeling	1
Training and validating ML models	1
Try to learn about the distribution of the data	1

Supplementary material - Annex 2

TABLE 2. Future uses details

Future Use	Frequency
Aiding non-experts in diagnosis	1
Conducting analysis and studies	6
Data sharing	1
Developing AI Models	22
Developing Large-scale Models	1
Enabling secondary use of data and data sharing	4
Improving the generalizability and interpretability of AI Models	1
Improving the performance of AI Models	12
Improving the training and evaluation of AI Models	1
Improving the training of AI Models	1
Medical education	1
Not specified	3
Optimizing therapies	1
Testing AI Models	5