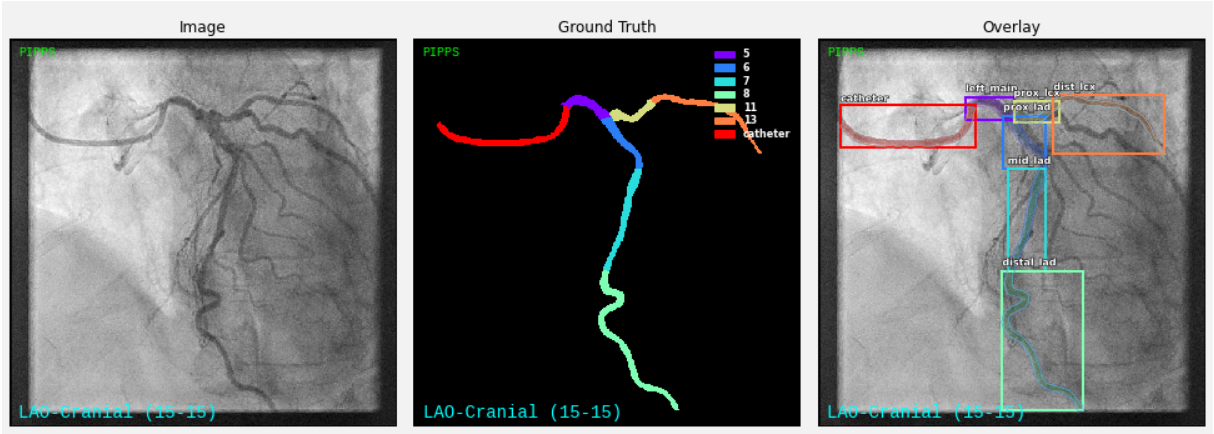
Automated Interpretation of Coronary Angiography and Stenosis Localization

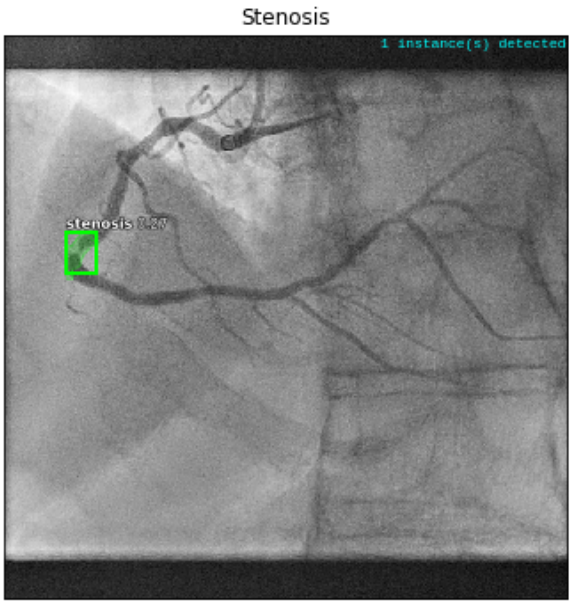
Background

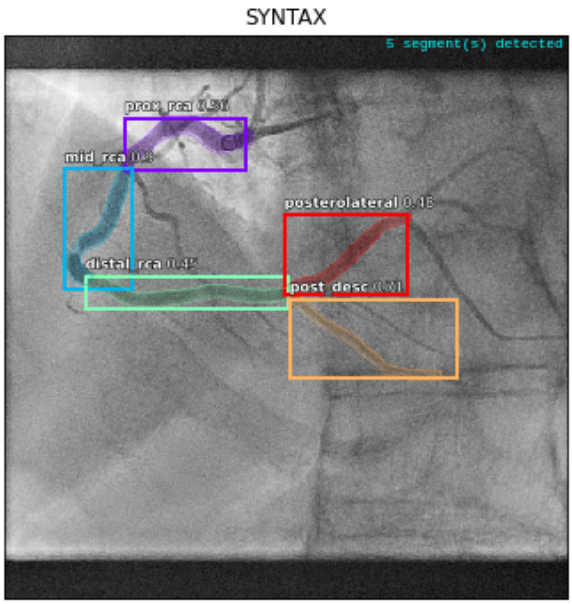
Current methods for assessing coronary artery disease primarily rely on visual evaluation of X-ray coronary angiograms by interventional cardiologists. This process lacks standardization and is subject to variability between different observers. Automating the interpretation of X-ray coronary angiograms using artificial intelligence would reduce variability in the assessment and could save time in documenting the findings.

Segmenting the coronary vessels and detecting stenoses through a state-of-the-art instance segmentation model offers the possibility to automatically describe the coronary angiogram and could also form the basis of computational fluid dynamics models that calculates coronary flows and pressures.

Ideally, multiple AI models can function in sequence to increase standardization and reproducibility in angiographic coronary artery disease assessment and procedure description.







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