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(54) Title: SYSTEMS AND METHODS FOR VASCATURE CENTRELINE EXTRACTION

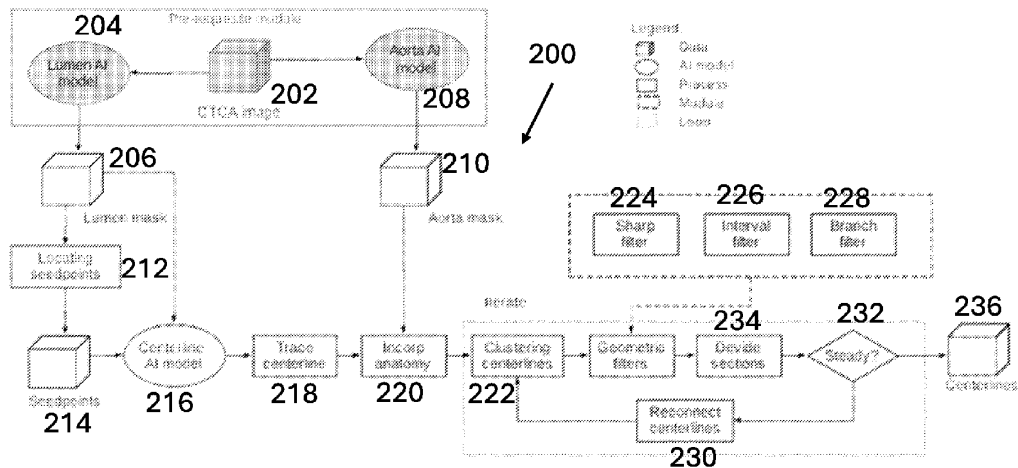


Figure 2

(57) Abstract: Disclosed herein are systems and methods for extracting, from an image, a centreline for each of one or more vessels of a vasculature, the system comprising memory, and at least one processor, the memory storing instructions that, when executed by the at least one processor, cause the system to receive, at a receiver system, a first mask of a portion of the vasculature, identify seed points in the image, using a shape analysis model, based on a shape of the vasculature in the first mask, generate, using a centreline tracing model, the centreline for each of the one or more vessels by tracing a traced centreline from each seed point, selecting a candidate centreline from the traced centerlines, based on an anatomical feature of the portion of the vasculature, and filtering the candidate centerlines using one or more geometric shape filters to generate the centreline for each vessel. Finally, a centreline for each vessel is provided as an output.

[Continued on next page]

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