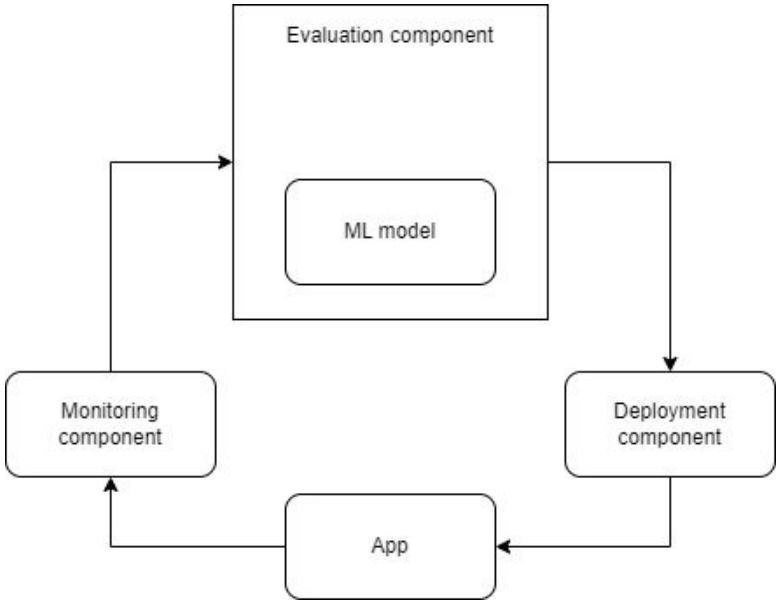
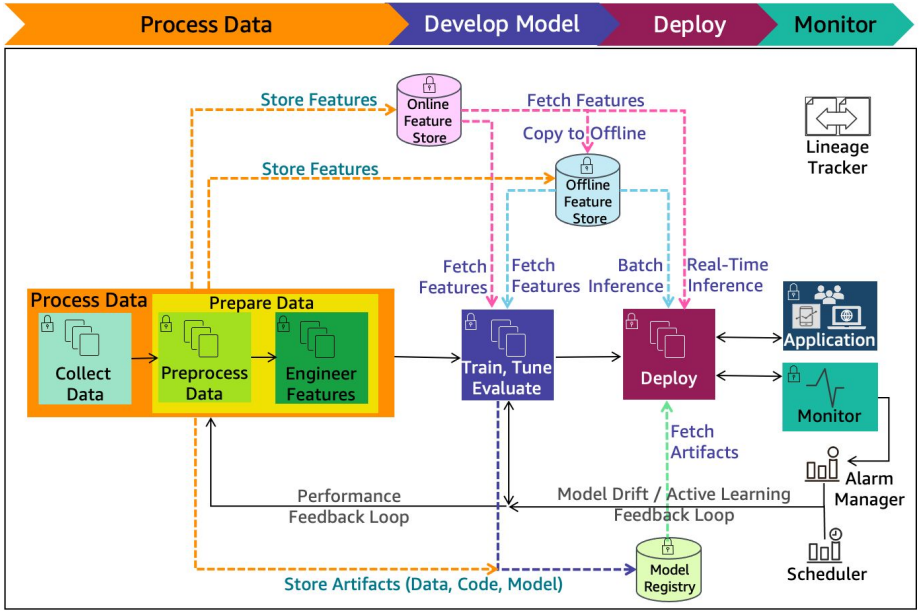
System evaluation and improvement

A system that employs an ML model to evaluate it, and to make iterative changes to the system based on the feedback from the model.



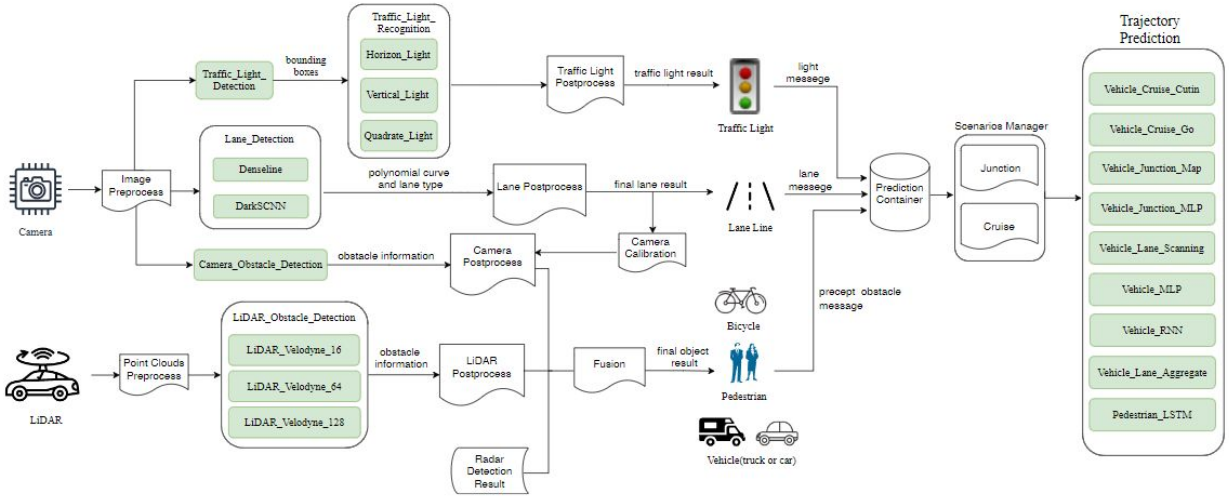
Runtime evaluation and improvement

A system that monitors and evaluates the model during deployment, and makes improvements to it either by tweaking the model or creating a new one with some changes.



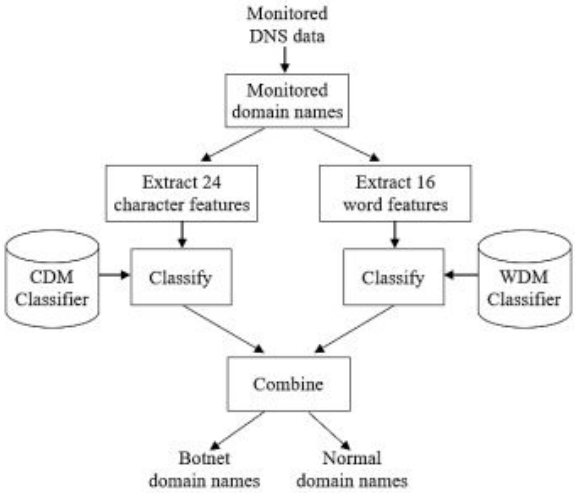
Parallel independent models

Running multiple models on the same input data to find different characteristics using different specialised models.



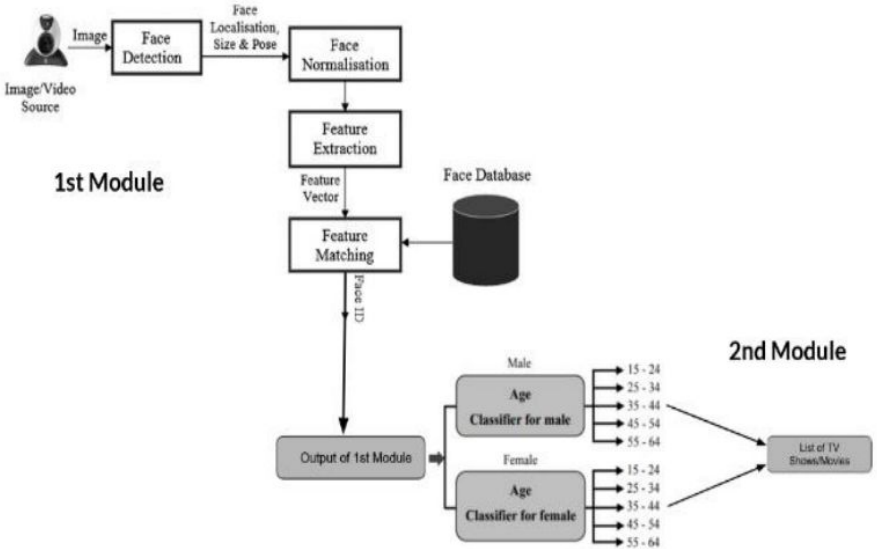
Ensemble learning

A system running multiple models to increase prediction performance. This can either be done by multiple models running on the same data, different parts of the same data, or in sequence.



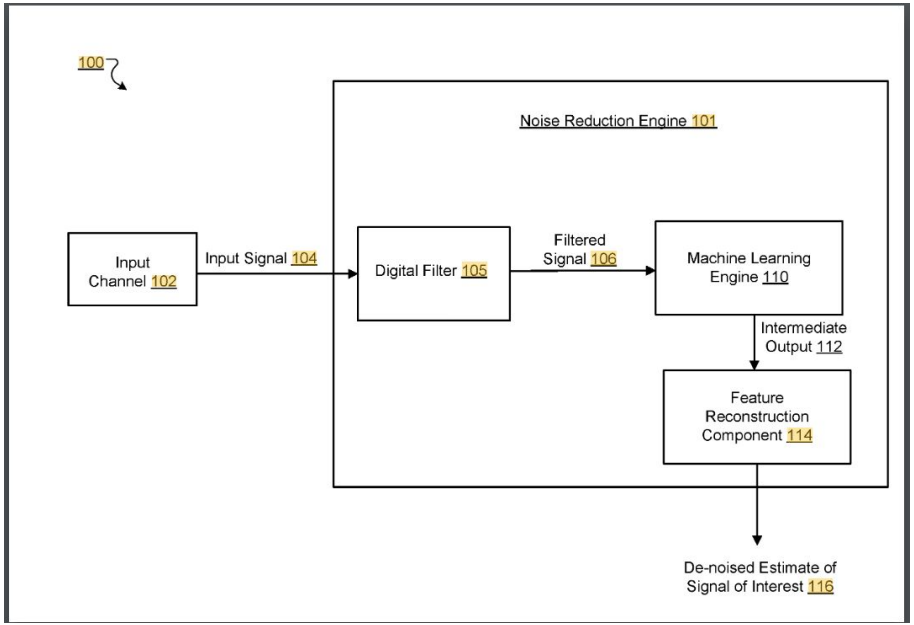
Sequentially dependant models

Running multiple ML models in sequence, each with the distinct responsibility of solving a smaller step in the process of solving the greater problem.



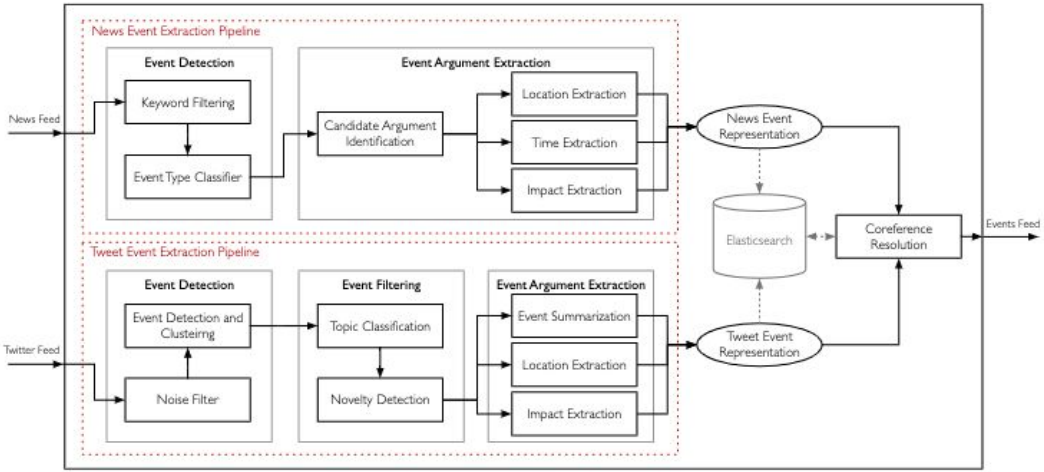
Post processing

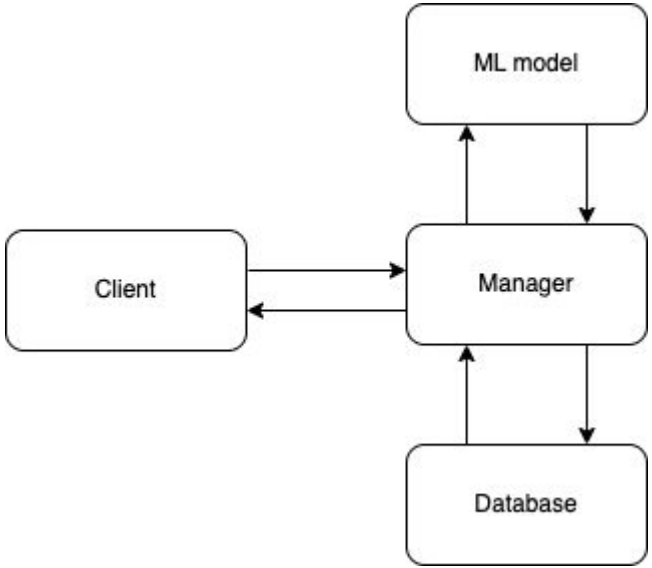
If the output of the model is not in the format wanted by the system, it is fed into a component that processes the model output to the desired format for the system.



Prediction cache

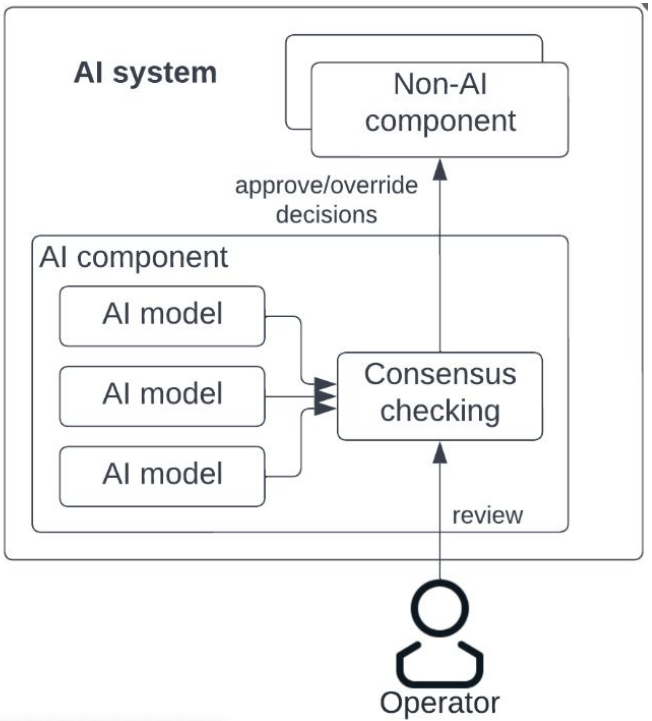
The input and/or prediction is saved in a database so that it can be queried to see if either is unique.

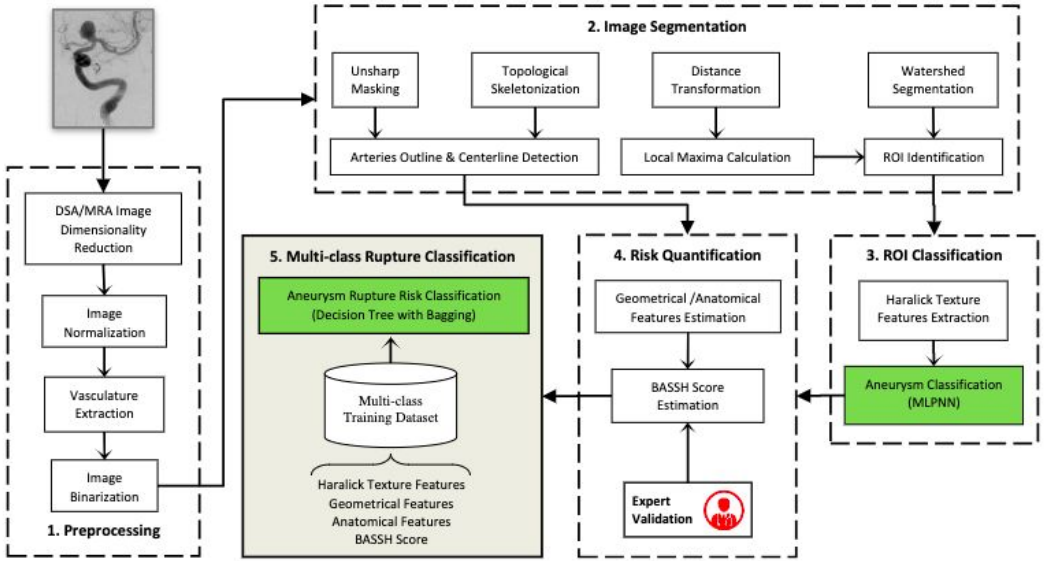




Expert validation

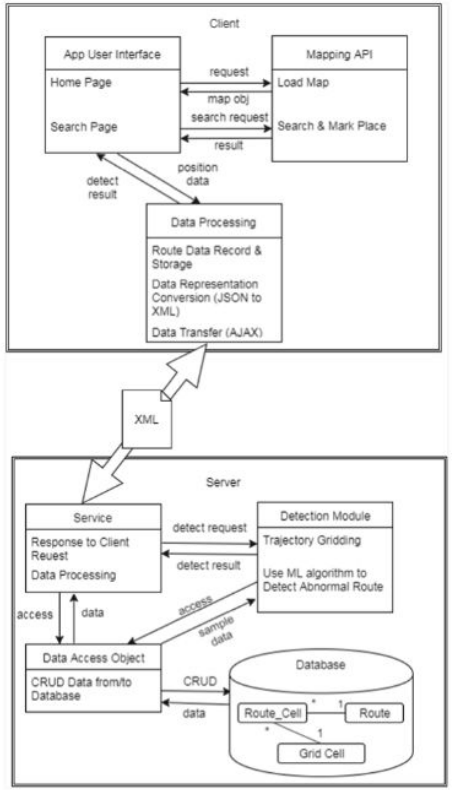
During a critical step of the process a human domain expert validates the input or output to ensure it fulfills certain criteria.





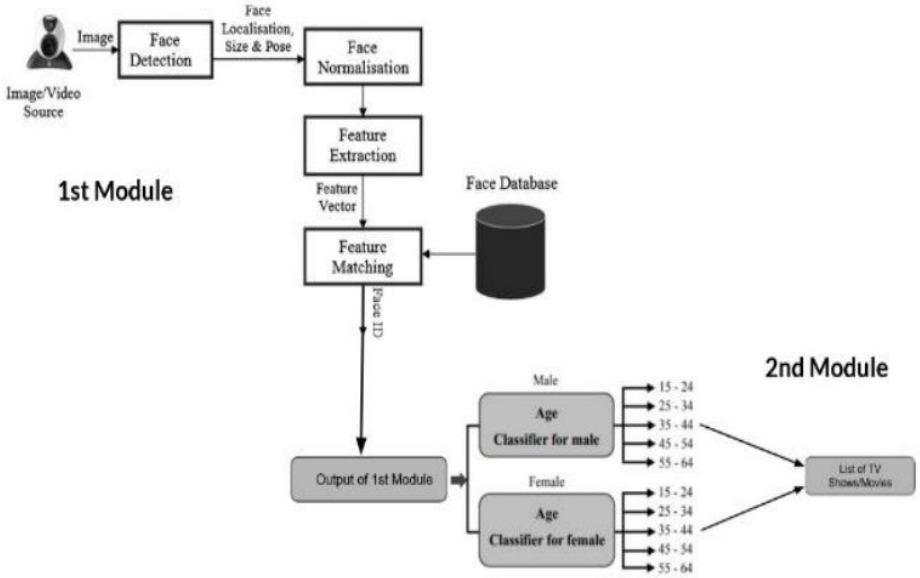
Server-side ML model

One component has the role of server and allows components or sub-systems to take the role of client, initiating connection with the server in order to obtain a prediction from its model.



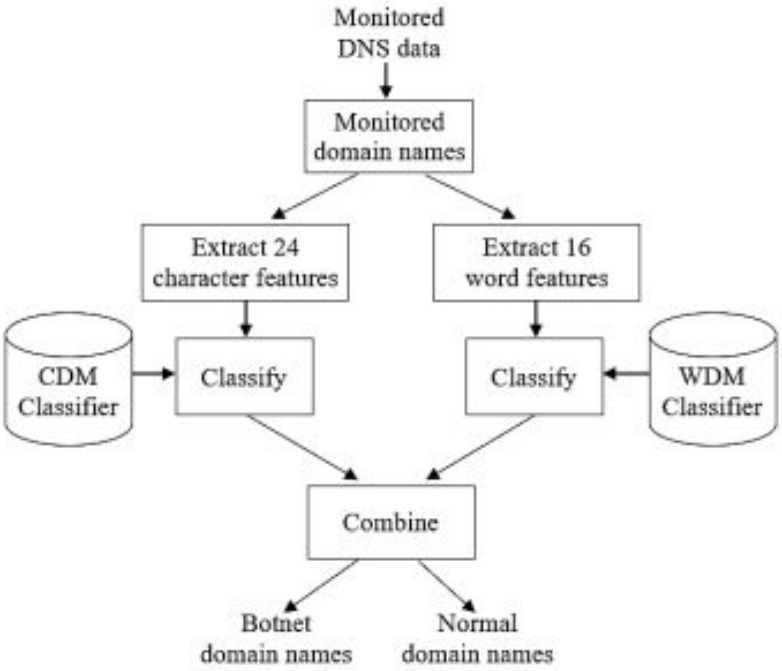
Situation-based model selection

When the system has multiple models to choose from and picks one of them to use based on situation.



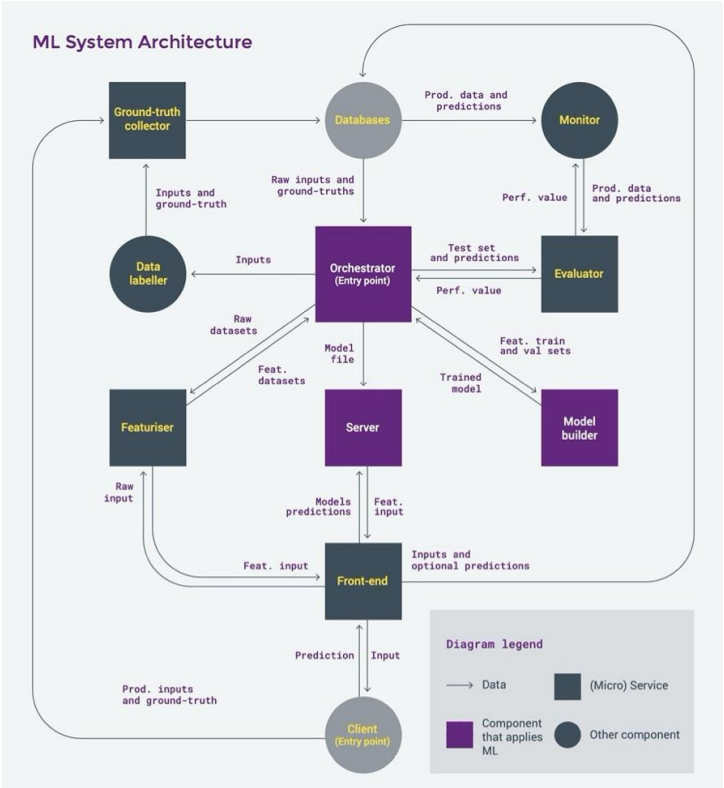
Feature extraction

When the input for the model first goes through a component that extracts a set of features within the data instead of using the raw data in the model.



Orchestrator

A central hub that handles all parts of the machine learning-related components, including but not limited to data handling, training, evaluation, and prediction requests.

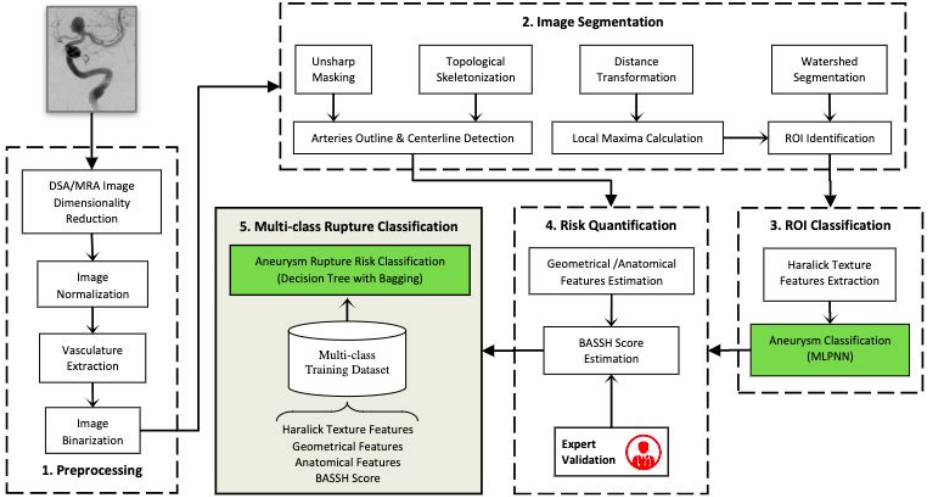


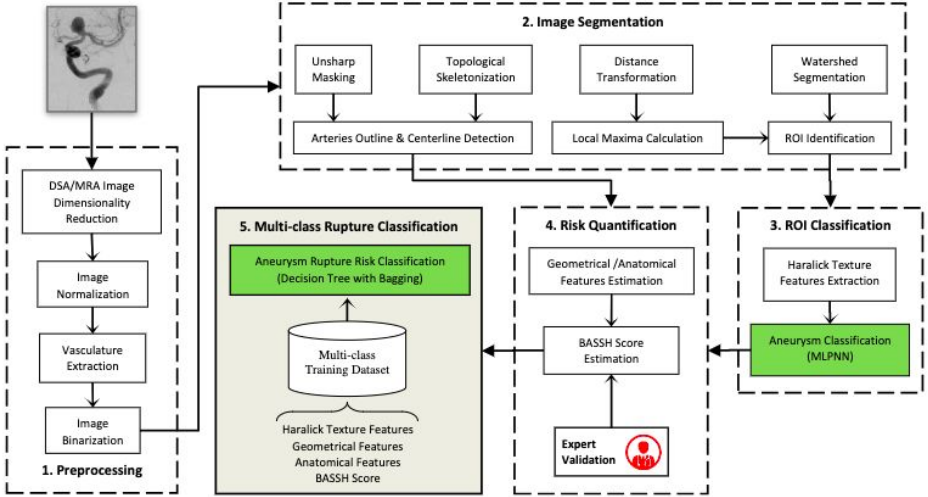
Multi-layer pattern

The system is divided into different layers which has clearly defined purposes. Each layer communicates only with its closest neighbours.

Data transformation

Data is transformed through a series of procedures, which produce incremental results to transform the data into the sought type of input for the model.



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Unsure
-3
Strong negative impact
-2
Negative impact
-1
Small negative impact
0
No impact
1
Small positive impact
2
Positive impact
3
Strong positive impact