Extracting 3D model feature lines based on conditional random fields

基于条件随机场的模型特征线提取

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- A conditional random fields (CRF) matching model with multiple features between stroke points and candidate feature points is established, which effectively combines the user's sketch with the model feature line extraction process

- A similarity metric based on topological structure is proposed to evaluate the rationality of the extracted feature lines, and an iterative optimization process is applied to obtain globally optimized model feature lines

- The results maintain several aspects of the sketches' drawing properties, which include the number, shape, and topology of strokes, and for models with various degrees of smoothness on different sections or models with poor mesh quality, reasonable feature lines can be obtained

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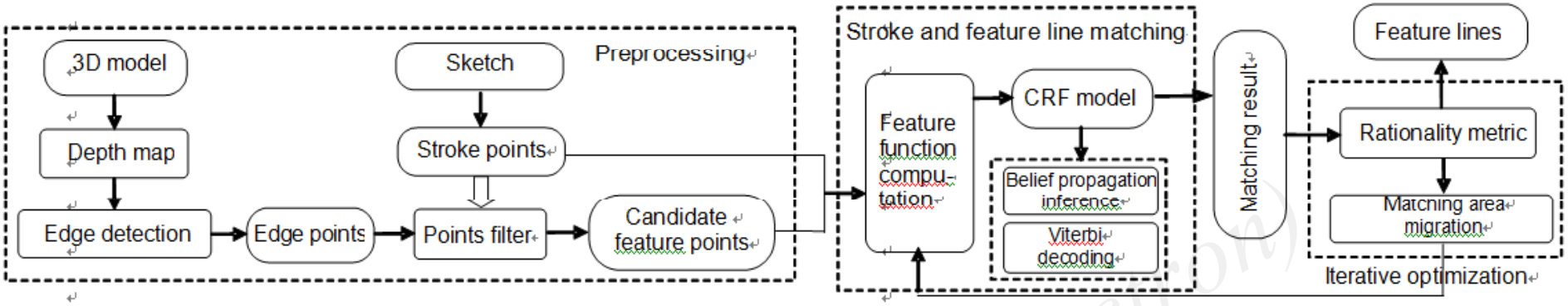
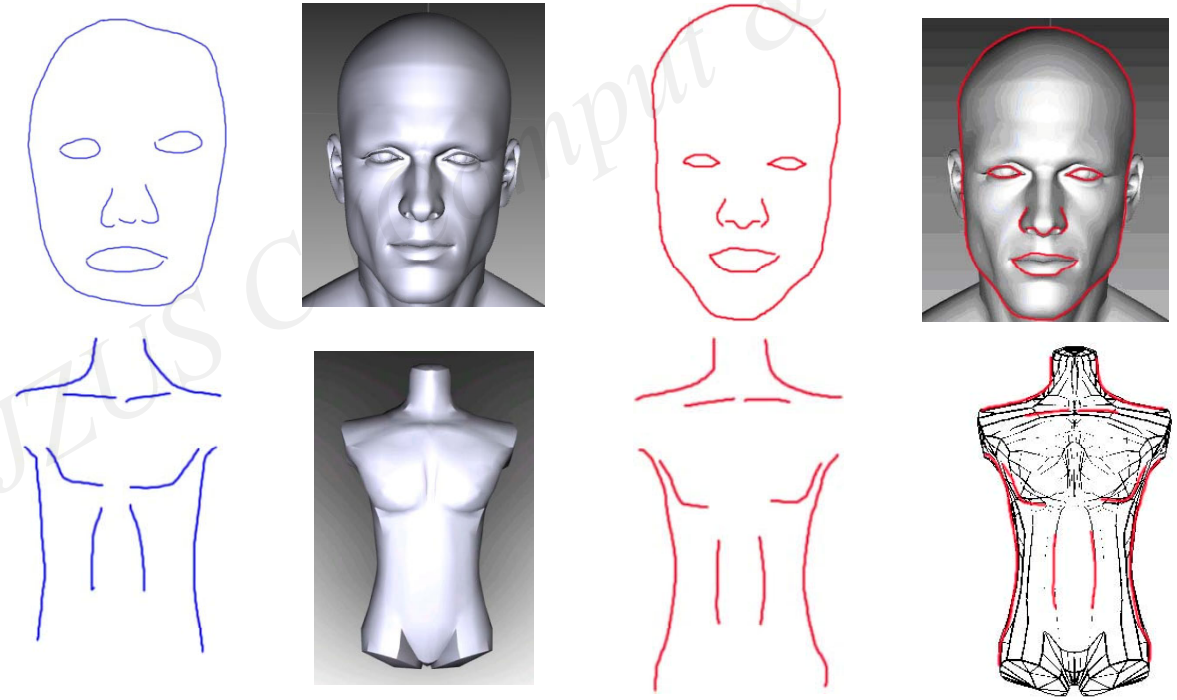
Fig. 1 The main process of our proposed conditional random fields (CRF) based feature line extraction