

Semi-Automatic Template Mesh Fitting of Human Full-Body Scans using Statistical Shape Model (SSM)

Problem Statement:

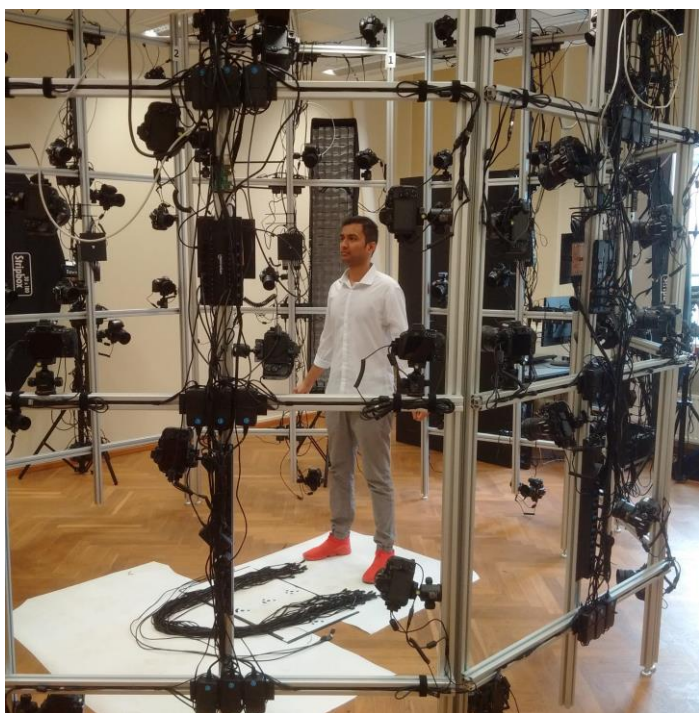
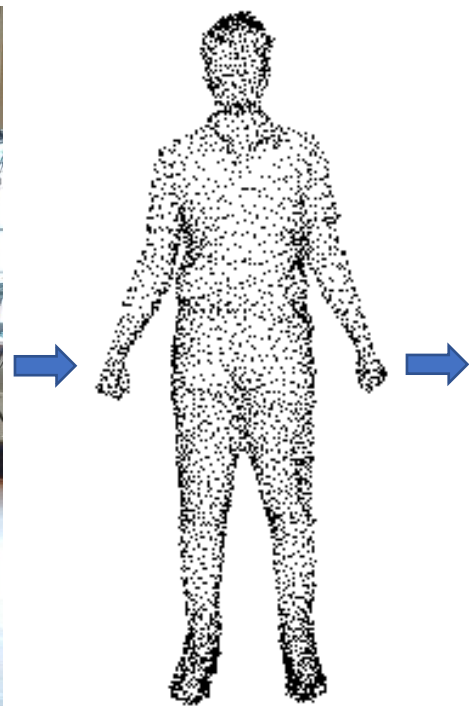
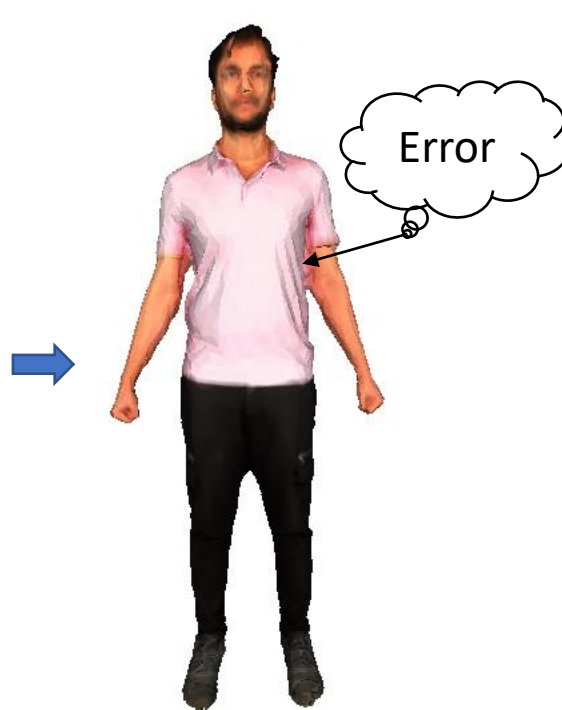


Photo Grammetry Scanner



Point Cloud



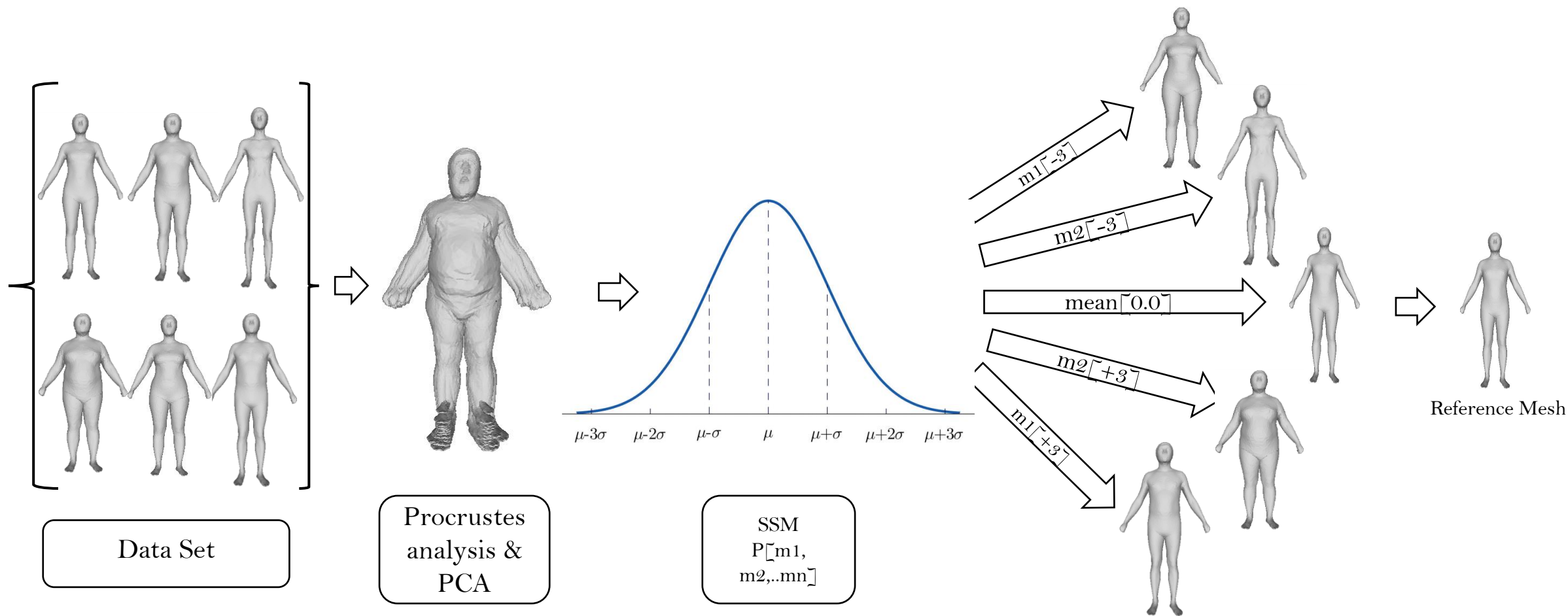
Target Mesh

Errors?

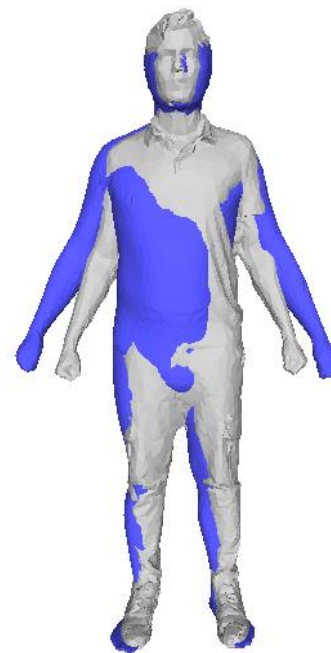
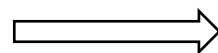
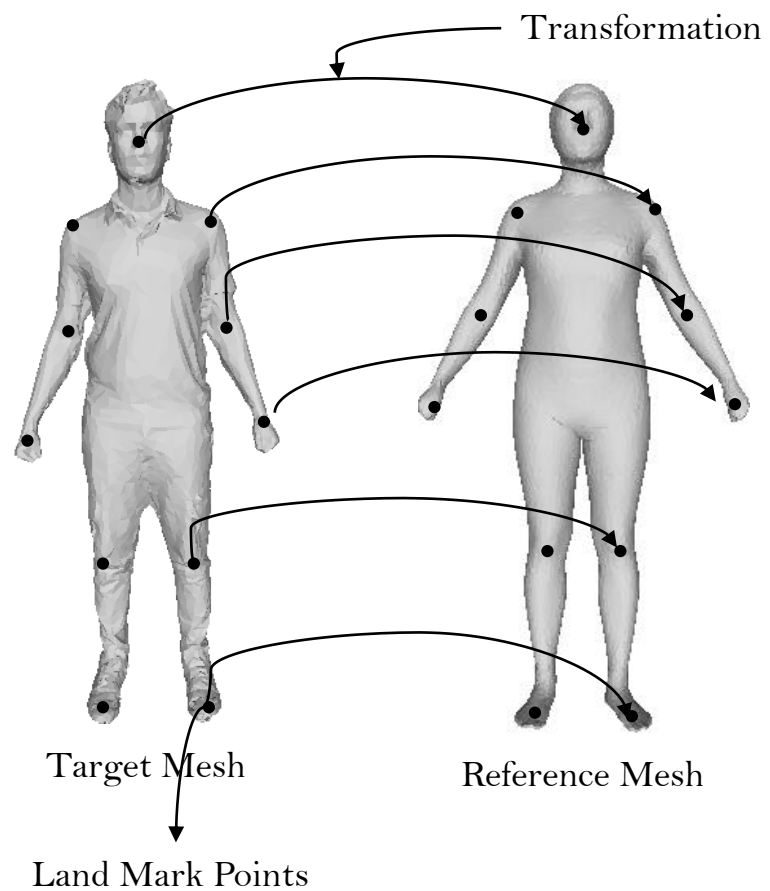


A popular approach
fitting an SSM to a target mesh.

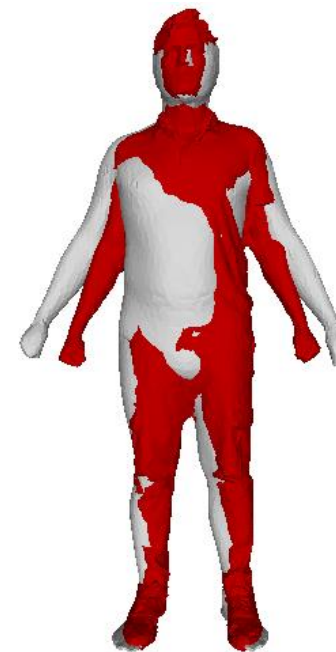
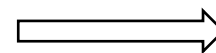
Statistical Shape Model (SSM):



Aligning the target mesh to the reference mesh:



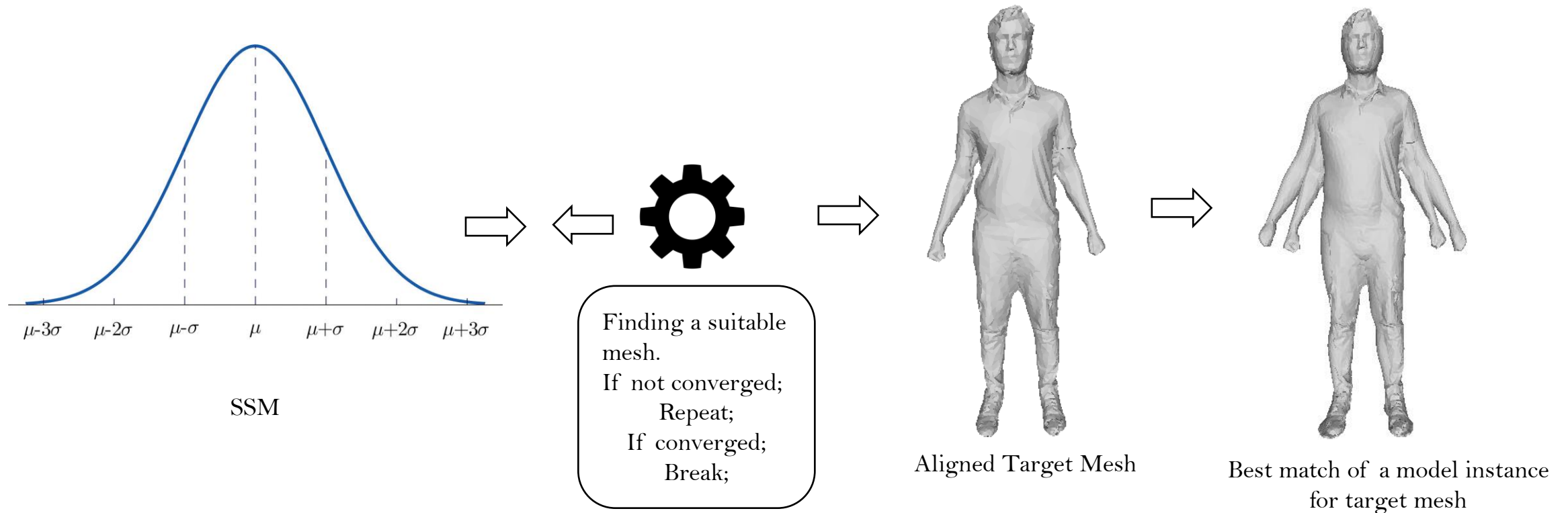
Rigidly Transformed/Aligned Mesh



Non-Rigidly Transformed/Aligned Mesh

Fitting an SSM to aligned target mesh.

- Finding a suitable mesh from the SSM for the target mesh



Fitting an SSM to aligned target mesh

- Compute binary image of target and model instance

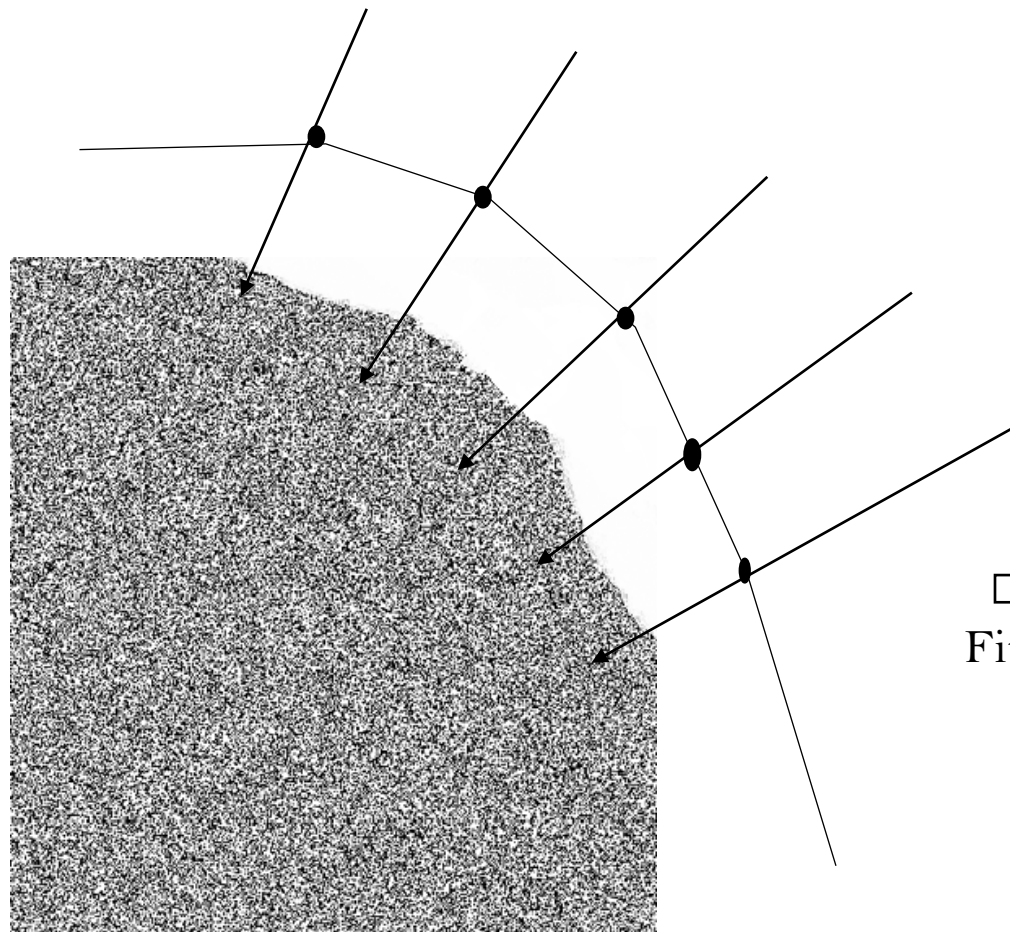


Image Object

➡
Fitting

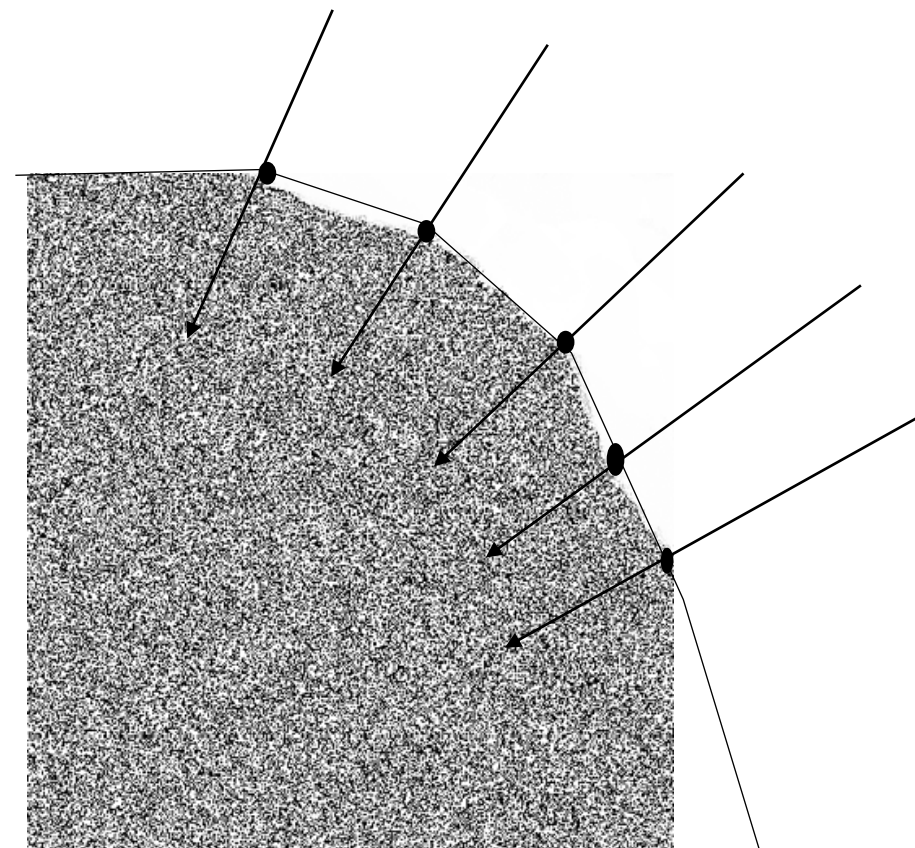


Image Object

Model Fitting Results



Original target mesh



Fitted mesh