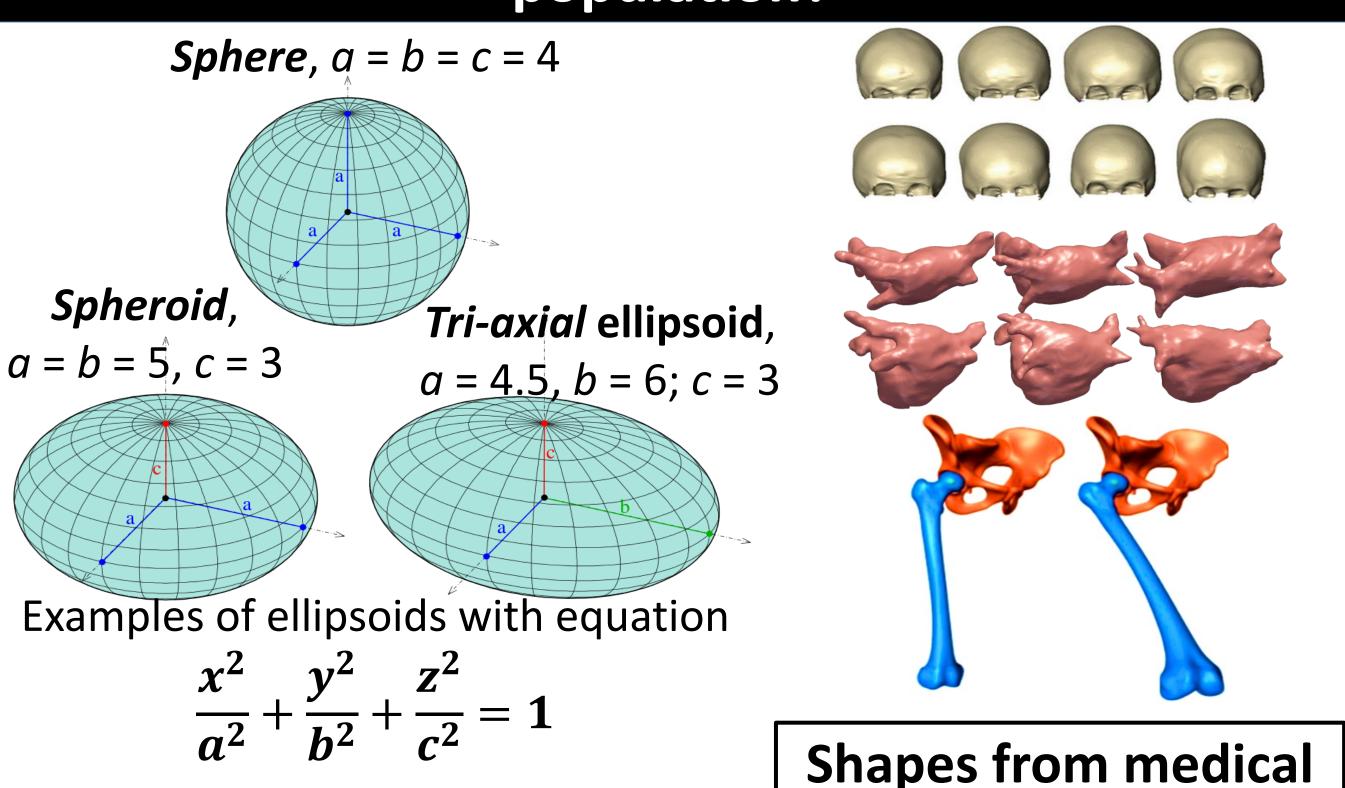
ShapeWorks: An Integrated Suite for Shape Representation and Analysis & more

Elhabian Lab



How to *quantify shape changes* and describe subject-specific anatomy in the context of a population?



Statistical shape modeling (SSM) identifies population-specific parameterization from data, enabling the quantification of shape variations.

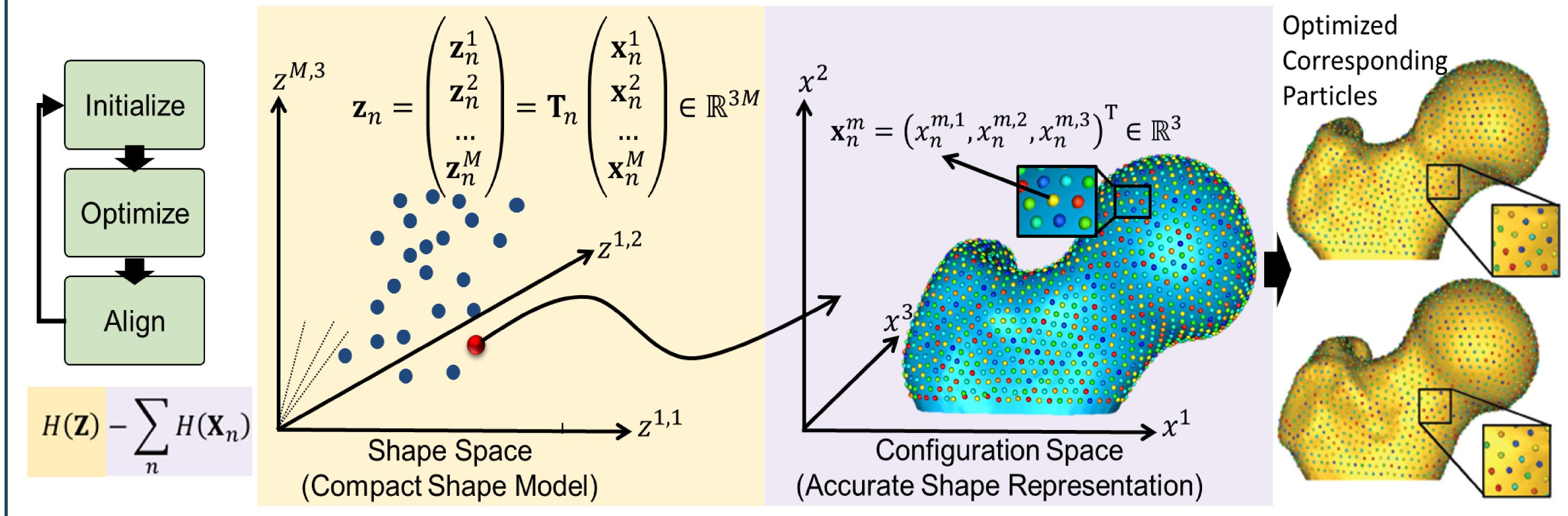
data with **UNKNOWN**

parameters

Shapes with known

parameters

ShapeWorks is a free, open-source suite of software tools that constructs statistical shape models from anatomical shape population



- ShapeWorks enables efficient analysis and modeling of the shapes using landmark-based statistics
- ShapeWorks optimizes landmark positions to minimize the overall information content of the model (first term) while maintaining a good sampling of surface geometry (second term)

Applications of ShapeWorks Modes of Variations Modes of Variations Modes of Variations Modes of Variations Foot& Ankle Vertebral Column Model View Model V



