OXFORD YEAR ONE ACTIVITIES		INTERACTIONS
POSTNATAL FACE	Automated 2D face screen development & testing image collection	UCSD KLJ INDIANA TF UBC JW
	Automated 3D face screen development & testing image collection	EMORY CC UCSD KLJ/CC UMN JW
FETAL & NEONATAL FACE	Fetal/neonatal face analysis Profile U/S segmentation image provision & collection	UCSD CC (2D) PASS BRIGHTON NA
FETAL BRAIN	U/S acquisition protocols Neurosonography FAS characterization Component detection e.g. corpus callosum	UCSD CC (2D) PASS HO (3D)

FETAL & NEONATAL FACE (& BRAIN)

- OXFORD-BRIGHTON subcontract negotiations (INITIATED)

- Canfield H1 hand-held 3D camera ordered for BRIGHTON

- BRIGHTON had to reapply for ethics extension from 2D to 3D

- Alison Noble (OXFORD) & Neil Aiton (BRIGHTON) have discussed neonatal trans-fontanelle imaging of corpus callosum

- Alison Noble (OXFORD) and Tina Chambers (UCSD) have discussed appropriate 2D U/S protocol for Ukraine

FETAL BRAIN

- Alison Noble has completed interviews for Post-Doc; candidate selected (Ruobing Huang) needs visa/work permit but her imminent DPhil is close to project aims
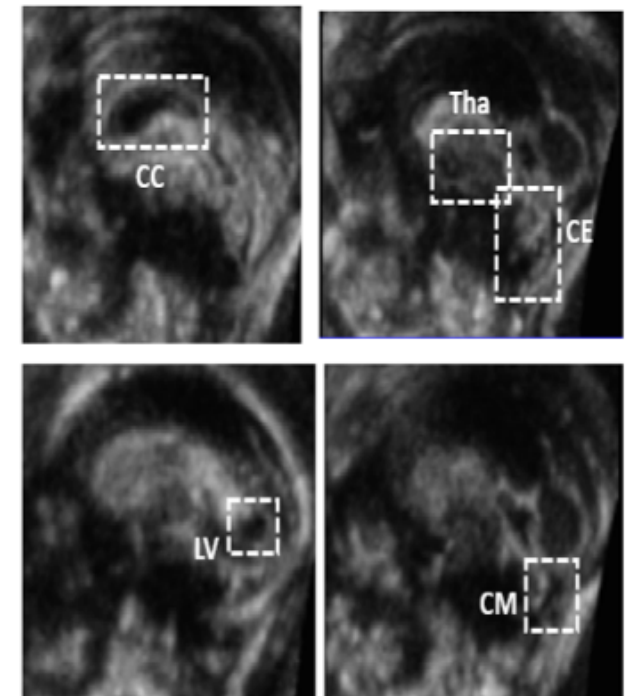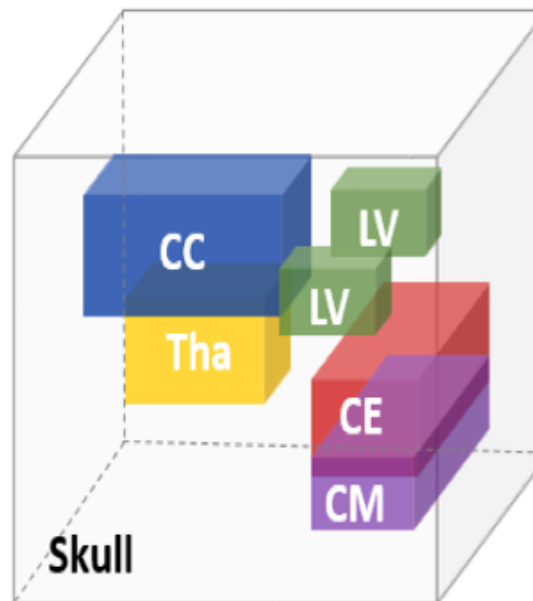
Automatic Localization of Key Brain Structures in 3D Fetal Neurosonography
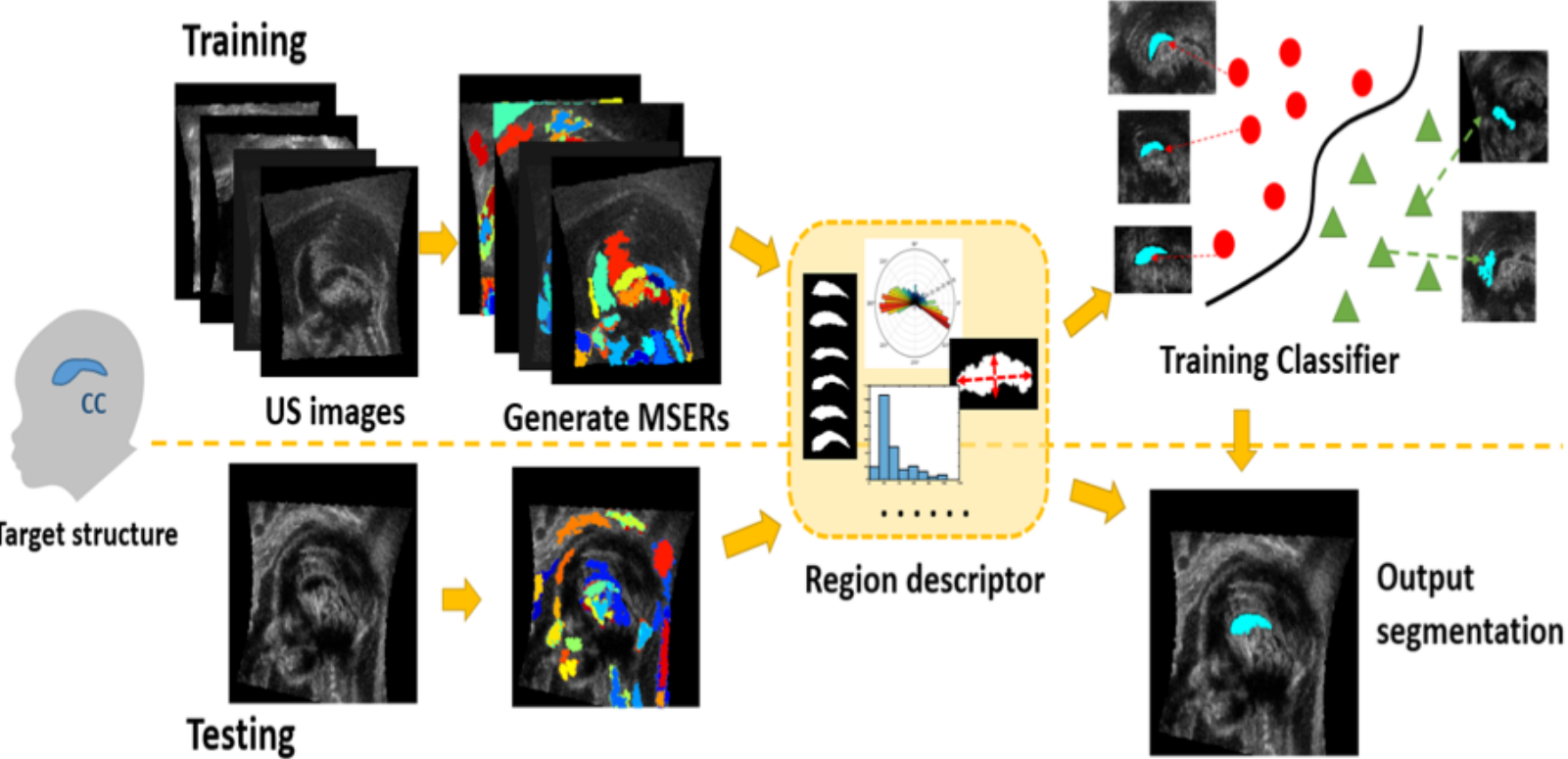
- Objectives:
    - Corpus Callosum (CC),Lateral Ventricles (LV), Thalami (Tha), Cerebellum (CE), and Cisterna magna (CM)
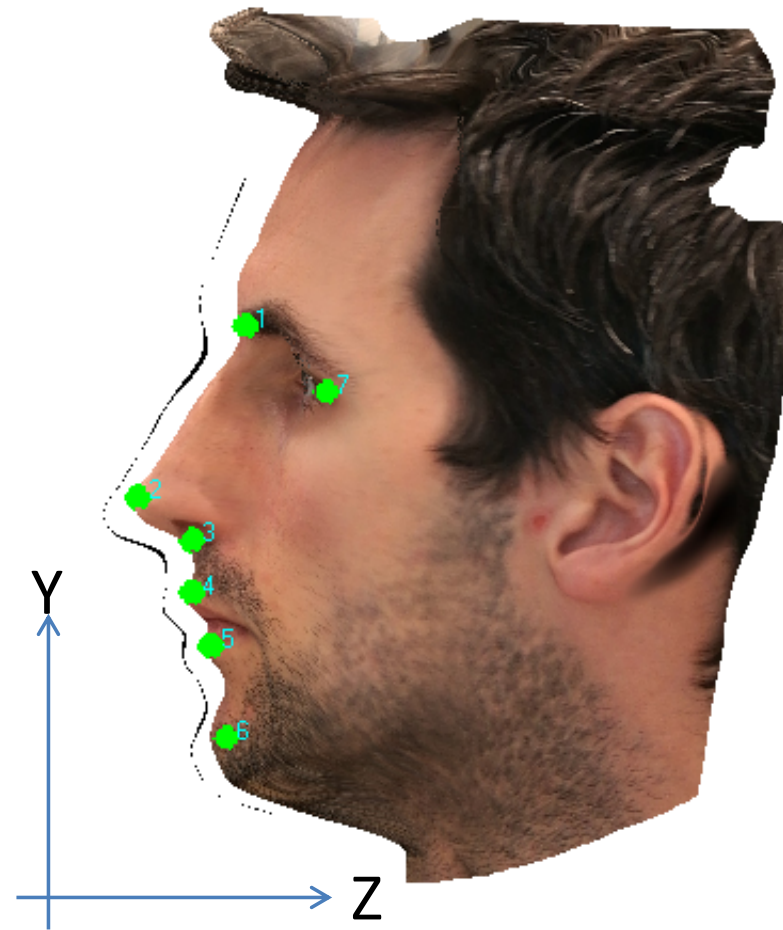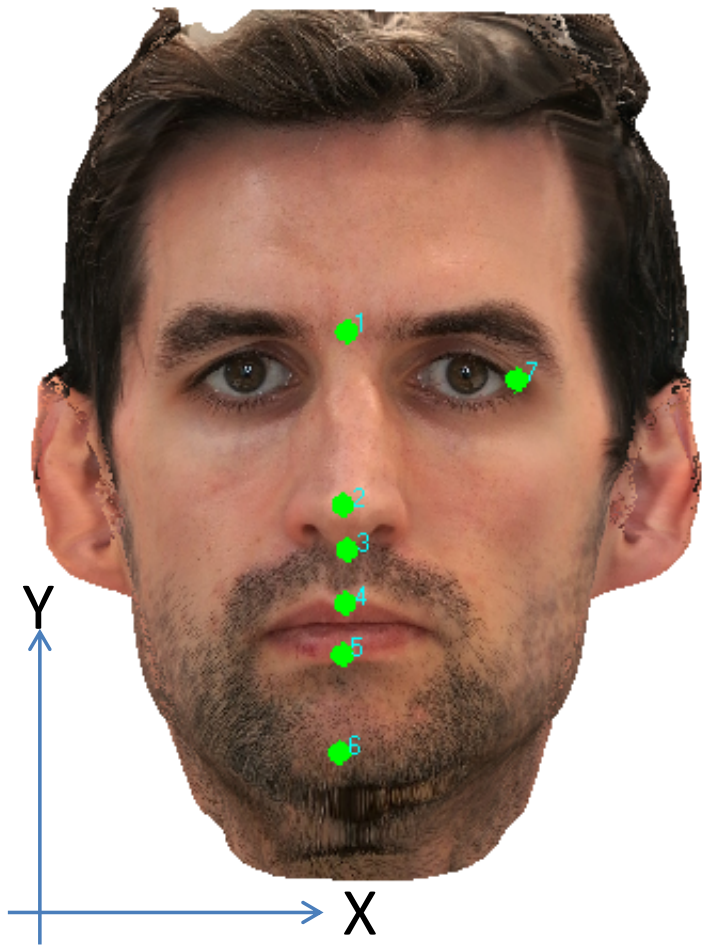
- Challenges:
    - Ultrasound speckles, varying contrast
    - Biological difference among fetuses and age variations
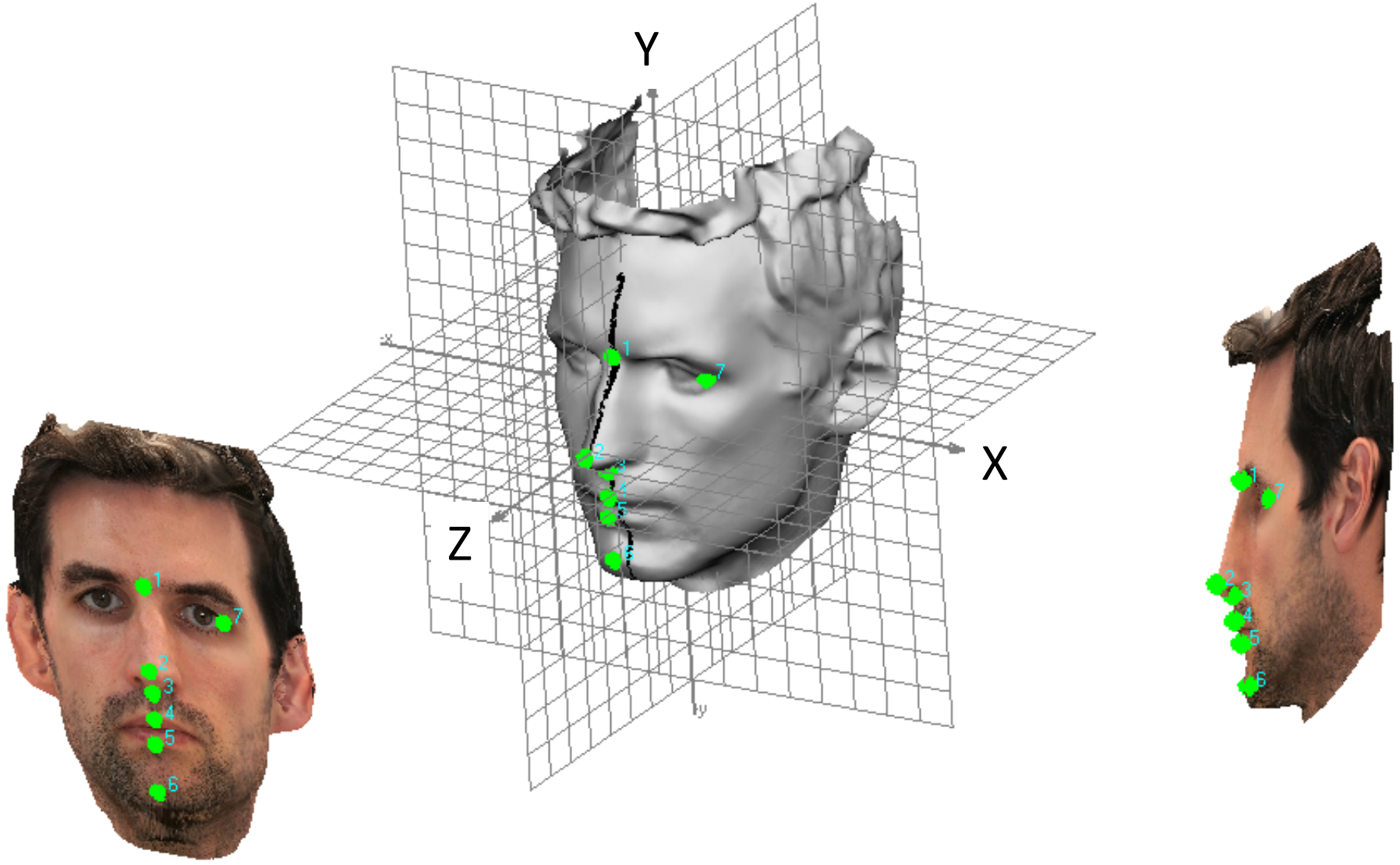   - Varying skull orientations

Segmentation of fetal brain structures in 2D ultrasound images

Project 2D photos into 3D model

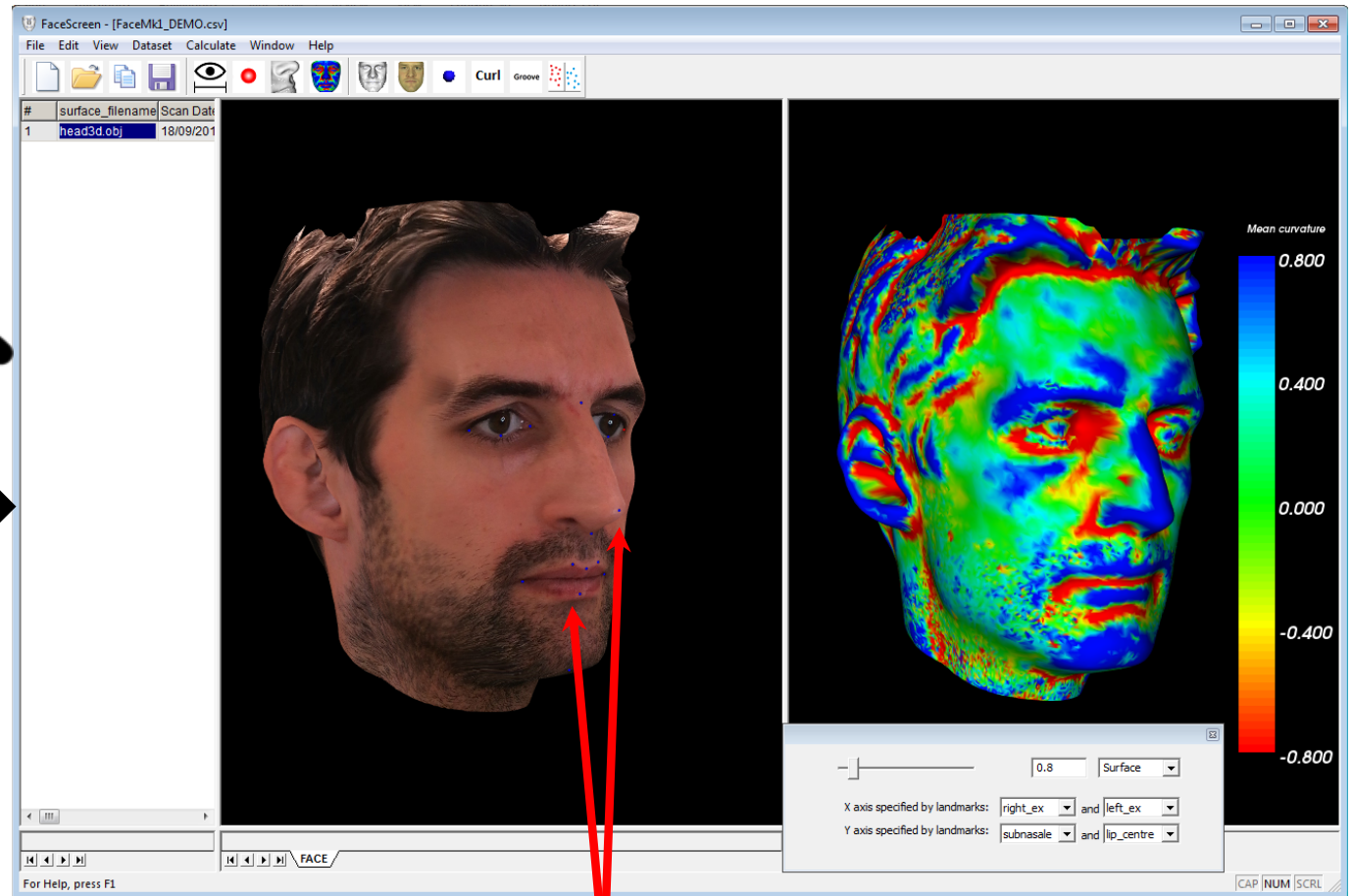# Project 2D photos into 3D model
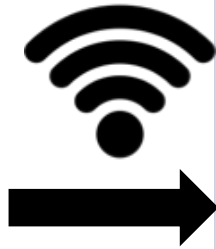
FAS vs Control Discrimination

ACCURACY
0.937

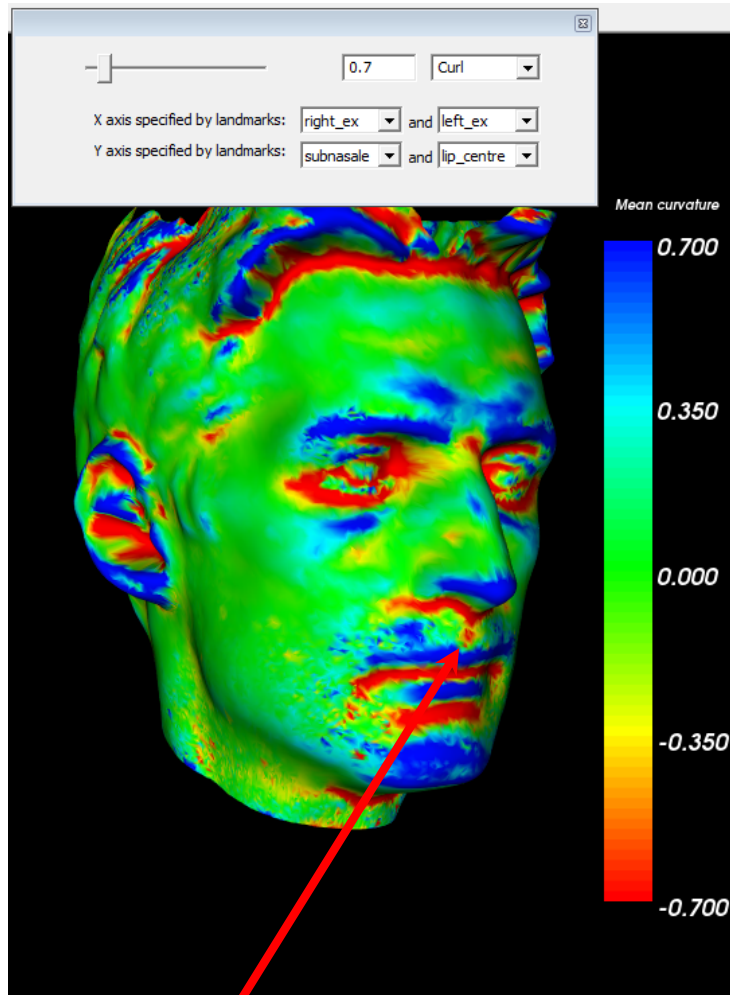# Bellus 3D Camera for Smartphone & Tablet
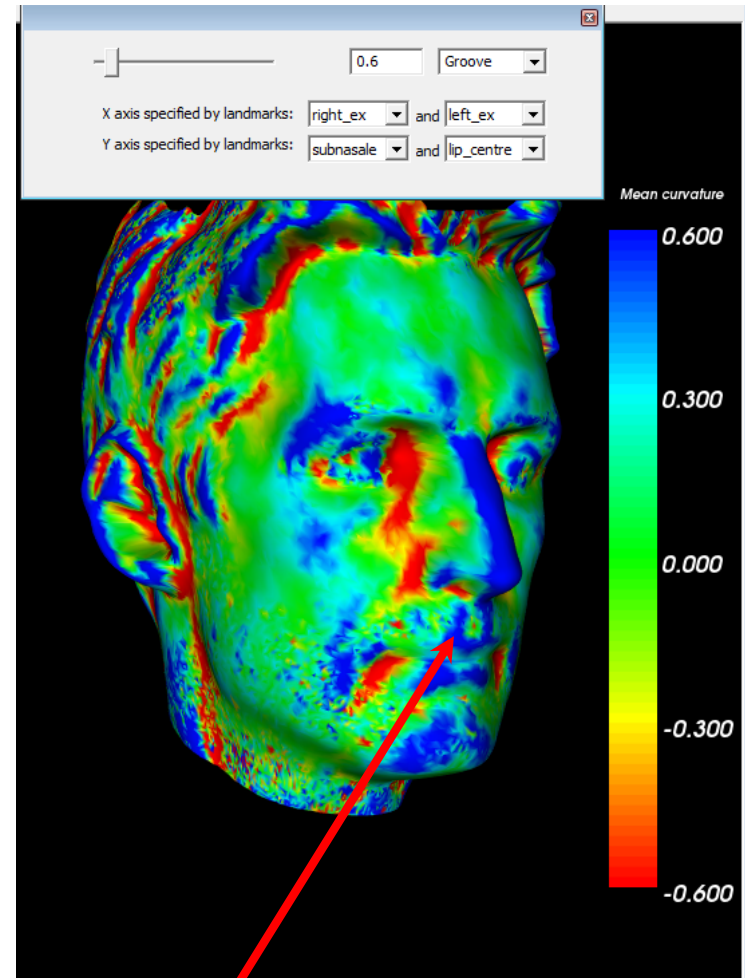
3D Image 🛜→ FaceScreen Software

Camera provides 3D face landmarks
FaceScreen shows landmarks and curvature of face

FaceScreen Upper Lip Analysis

indentation of philtrum

prominence of philtral pillars

FaceScreen Palpebral Fissure Analysis

Male PFL Scores PFL: 28.85 Z-Score: 0.0925 Percentile: 54

Palpebral Fissure Length
(%ile for age/sex/race)