## Project outline

Latest version of Project outline: <https://github.com/andics/Big-Bang-Files.git>

The accurate age estimation is a substantial part of the integral biological profile, but quite complex in cases of unidentified decomposed and skeletonized human remains, especially in adults. Commonly, the skull is well-preserved and due to the assumption that the cranial sutures close in conjunction with age, the patency of contact between adjacent calvarial bones has been used for an age-at-death prediction

in the bioarchaeological and forensic expertises.

This study is aimed to elaborate an algorithm for objective automatic assessment of the suture closure degree in cross-section and to assess its relation to aging. For this purpose I used volumetric images (.TIFF series and .DCM series) of dry skulls of adult males with known age-at-death generated by industrial μCT\CT system. The obtained spatial resolution (voxel size of 97.5 μm for μCT) was high enough to allow precise detection of the contact between the adjacent calvarial bones in each of the three bone layers: external table, diploë and external table.

With the use of different algorithms and deep learning, the purpose of the project is to achieve a better cross-sectional view of sutures from a skull CT scan, and to create an automatically executed metric

system for estimating the age of an individual, based on this cross- sectional view.