**MEC- EC Department**

**SEMINAR 2018-19**

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| 1 | Name of Student | Abraham Joseph |
| 2 | Roll No. | 03 |
| 3 | Broad Subject Area | Soft Computing |
| 4 | Topic (avoid abbreviation) | Craniofacial Superimposition |
| 5 | Guide |  |
| 6 | Abstract  Craniofacial superimposition involves the process of overlaying a skull with a number of ante-mortem images of an individual and the analysis of their morphological correspondence. Within the craniofacial superimposition process, the skull-face overlay stage focuses on achieving the best possible overlay of the skull and a single ante-mortem image of a missing person. This technique has been commonly applied following a nonautomatic trial-and-error approach. Automatic skull-face overlay methods have been developed obtaining promising results. In this paper, we present two new variants that are an extension of existing 3-D–2-D methods to automatically superimpose a skull 3-D model on a facial photograph. We have modeled the imprecision related to the facial soft tissue depth between corresponding pairs of cranial and facial landmarks which typically guide the automatic approaches. As an illustration of the model’s performance, the soft tissue distances associated to studies for Mediterranean population have been considered for dealing with this landmark matching uncertainty.  Hence, we directly incorporate the corresponding landmark spatial relationships within the automatic skull-face overlay procedure. We have tested the performance of our proposalon 18 skull-face overlay instances from a ground truth data set obtaining valuable results. The current proposal is thus the first automatic skull-face overlay method evaluated in a reliable and unbiased way. | |
| Reference   |  |  | | --- | --- | | 1 | [IEEE Transactions on Information Forensics and Security](https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=10206) ( Volume: 10, [Issue: 10](https://ieeexplore.ieee.org/xpl/tocresult.jsp?isnumber=7181762), Oct. 2015 ) | | 2 |  | | 3 |  | | | |