

# Revolutionising Human Identification in Forensic Odontology Using the Selfie Forensic ID App

KRISHNANAND P SATELUR<sup>1</sup>, VIDYA MALLIPATTANA ANNEGOWDA<sup>2</sup>**Keywords:** Application, Geolocation, Identity document

Dear Editor,

Human identification using a mobile application was first proposed in 2018 as a tool to capture and archive selfie images of smiles and anterior teeth through social media platforms such as Instagram, Tumblr and Twitter, for use as potential antemortem dental data in human identification. The application includes features such as grids for standardised photography, passport photo creation, mirror functions and emergency alerts with geolocation, aimed at facilitating the search for missing or unidentified persons.

The integration of smile and selfie photography into forensic odontology has opened novel avenues for human identification, particularly in scenarios where traditional dental records are unavailable or compromised. The selfie forensic Identity Document (ID) Application (App) represents a pioneering tool that leverages this approach by enabling individuals to capture and archive dental images from selfie angles, along with geolocation data that facilitate efficient forensic identification [1]. This application harnesses an innovative combination of user-friendly technology and forensic science by creating a centralised archive of dental features visible in smiles.

Through facial and dental photography, the app supports distinct individualisation by documenting unique dental traits such as tooth number, shape, position, restorations and abnormalities. These characteristics are critical in forensic investigations, particularly in cases involving decomposed bodies, mass disasters, or missing persons where antemortem records are scarce or non-existent [2].

The utility of the selfie forensic ID app extends beyond conventional methods by offering a low-cost, widely accessible and non-invasive means of data collection. It capitalises on the widespread use of smartphones and the popularity of selfie photography, potentially expanding the global pool of available antemortem dental data. Moreover, integration with social media networks

enables rapid dissemination of dental information, aiding missing-person identification campaigns [3].

Technical methodologies employed in this domain—including direct dental trait comparison, photographic superimposition and advanced digital imaging analysis—have demonstrated high accuracy in various forensic contexts. The app's practical application aligns well with these methodologies by providing standardised, high-quality images suitable for such analyses.

As forensic odontology continues to embrace digital innovations, platforms such as the selfie forensic ID app are poised to become invaluable tools that complement existing identification strategies [4]. Although challenges such as image distortion, environmental variations and the time gap between image capture and forensic examination remain, ongoing advances in imaging technology and the integration of artificial intelligence hold promise for overcoming these limitations [5].

In conclusion, the selfie forensic ID app exemplifies a forward-thinking approach in forensic odontology by enhancing human identification through accessible digital tools. Its widespread adoption could significantly improve the speed and accuracy of forensic investigations, ultimately contributing to humanitarian efforts in identifying the deceased.

## REFERENCES

- [1] Nuzzolese E, Lupariello F, Di Vella G. Selfie identification app as a forensic tool for missing and unidentified persons. *J Forensic Dent Sci.* 2018;10(2):75-78.
- [2] Silva RF, Pereira SD, Prado FB, Daruge Jr E, Daruge E. Forensic odontology identification using smile photograph analysis: Case reports. *J Forensic Odontostomatol.* 2008;26(1):12-17.
- [3] Mazur M, Grka K, Aguilera IA. Smile photograph analysis and focal length connection in forensic anthropology and odontology. *Forensic Sci Int.* 2022;355:111285.
- [4] De Sousa D, Lisboa CPR, Franco A, Junqueira J, Oenning A, Narchini M, et al. Human identification through smile photographs: Comparison of two methods based on selfies. *J Forensic Sci.* 2025;70(4):118-27.
- [5] Reesu G, Brown N. Application of 3D imaging and selfies in forensic dental identification. *J Forensic Leg Med.* 2022;89:102354.

### PARTICULARS OF CONTRIBUTORS:

1. Professor and Head, Department of Oral Pathology, Dayananda Sagar College of Dental Sciences, Bengaluru, Karnataka, India.
2. Reader, Department of Oral Pathology, Dayananda Sagar College of Dental Sciences, Bengaluru, Karnataka, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Vidya Mallipattana Annegowda,  
Reader, Department of Oral Pathology, Dayananda Sagar College of Dental Sciences, Kumarwamy Layout, Bengaluru-560079, Karnataka, India.  
E-mail: vidyaannegowda5@gmail.com

### PLAGIARISM CHECKING METHODS:

- Plagiarism X-checker: Sep 19, 2025
- Manual Googling: Dec 11, 2025
- iThenticate Software: Dec 13, 2025 (9%)

### ETYMOLOGY: Author Origin

EMENDATIONS: 6

### AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? No
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: Aug 26, 2025

Date of Peer Review: Nov 19, 2025

Date of Acceptance: Dec 15, 2025

Date of Publishing: Mar 01, 2026