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Nature and Extent of Impersonation Revealed Through Forensic Examination of Recruitment Documents

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ABSTRACT: In this century the perpetrators having knowledge of the sophisticated and Hi-Tech Scientific gadgets are involved in various crimes. One such rapidly increasing trend is impersonation in recruitment cases in which, the impersonator not only simulates the signatures and writings but also exploits the photographs of the candidates due to its easy access to alter and reproduce the desired contents while appearing in the examination on behalf of the real candidate. The forensic experts can examine such type of problems by his/her skill, expertise and using latest photo editing and comparison softwares. Besides examining the different types of forgery involved in the writings, the photos of the candidates on the various recruitment documents viz. admit cards, attendance sheets, etc. also need to be examined whether these all are of the one and the same person or not. In this research work the systematic method of identification as well as examination of recruitment documents is explored where in, the various recruitment documents were not only found forged with spurious writings and signatures but also with doctored image of the candidates.

KEYWORDS: Forgery, Simulation, Natural variations, Fundamental Differences, Doctored Image, Impersonation, Exemplars, Image J.

I. INTRODUCTION

Recruitment documents are frequently involved in the commission of crime related to impersonation forgery, which is a punishable offence under various sections of Law. These acts of malpractices, in order to get the job by unfair means not only snatch the job opportunities from the worthy candidates but also it is a menace to the society and if such type of malpractitioner succeed in their objectives they send a negative message to the society and upcoming generations. Hence, this menace should be immediately eliminated from the system by the combined and sincere efforts of recruitment agencies, investigating agencies and forensic science laboratories. In various recruitment cases it has been observed that the real candidate only fills the various recruitment forms in his/her own writings and also utilise his/her genuine photographs but at the time of various stages of examination the impersonator appears in the examination on behalf of real candidate with the nexus of some officials and finally gets selected. After that, in the document verification stage during scrutiny of documents by the sincere recruitment officials such cases are reported as suspected and forwarded to forensic science laboratory for examination of the suspected documents. In some cases it has been observed that the photograph of the real candidate which was utilised and uploaded on the online recruitment portal during submission of the application form is also morphed/doctored with the photograph of the impersonator and utilised by the impersonator during examination on behalf of the real person in order to disguise/mislead the invigilators in the examination centre. Thus examination of these recruitment documents is a multi disciplinary task which involves questioned document [1] division as well as photo and scientific aid or physics division of a forensic science laboratory. In this present work the authors explained the importance of examining the writings and the photographs of real person as well as of the impersonator collectively in order to arrive at a conclusive opinion.

II. RELATED WORK

It is difficult for layman to detect the differences in writings and doctored image/photograph by merely visual inspection of the documents. Such false/spurious documents used to pass through the innocent eyes of invigilators and during investigation the aforesaid false documents are generally forwarded for genuineness of the signatures/writings/photographs to Forensic experts.

Such type of recruitment documents should be examined on the following points.

- The genuineness or otherwise of the writings/photograph executed?
- Examination of document as a whole in order to establish the fact, whether there is presence of any fabrication/tampering/addition/alteration [2] or not.

III. METHODOLOGY

In first stage of examination such type of recruitment documents may be examined in order to establish the fact that they have been written or signed by one and the same person or not by abreast comparison of standards vis-a-vis disputed writings. In second stage of examination, photographs on various documents may be examined, whether all photographs belongs to one and the same person or not. In the present research work, two suspected admit cards of different tier examination for recruitment bearing markings A12 (**Fig: B**) and A2 (**Fig: A**) were examined with the exemplars (**Fig: C and Fig: D**) using conventional forensic document examination methods and examination of photographs using various computer assisted softwares.

IV. EXAMINATION OF WRITINGS

The disputed admit cards as well as the exemplars were carefully and thoroughly examined using various scientific instruments viz. hand magnifiers (3x-14x, Brand: Baucsh and Lomb, Optical company, USA), stereo zoom microscope (Carl Zeiss Jena, Technival 2), Video Spectral Comparator, Foster and Freeman, various light sources, etc. The abreast examination of the documents reveals characteristic similarities in the class as well as individual writing habits [3] between writings on admit card marked A12 (**Fig: B**) with the writings of the exemplars (**Fig: C & Fig: D**) indicating that the writings on the admit card belongs to the real person therefore the writings on the admit card marked A12 may also be considered as standards with others exemplars for comparison with the writings on the disputed admit card marked A2. On the other hand fundamental differences [4] in the writing habits were observed between the writings on admit card marked A2 with the writings of the exemplars as well as of the admit card marked A12 (**as shown in juxtaposed chart Fig: E**) indicating the fact that the real person appeared only in one examination whereas the impersonator appeared in other examination on behalf of him by unfair means.

The aforesaid observations, examinations and interpretations are further reinforced when it is observed that the photographs on different recruitment documents were not in agreement and some anomaly has been observed prima facie. Therefore it became the essential need to analyze the photographs, which may be examined in the light of following points?

V. EXAMINATION OF PHOTOGRAPHS

Forensic abreast photo examination and analysis of photographs marked A2 vis-a-vis A12 using various softwares viz. Adobe Photoshop CC 2018 [5] and Image J [6] reveals that the faces in the photographs were found to be of two different person with respect to various facial features such as, shape/size of ear, nose, cheeks, chin, etc. also uneven edges are observed around the neck region in A2. On the other hand characteristic similarities were observed in the minute and inconspicuous details in the blue t-shirts in the photographs marked A2 & A12 viz. crease marks- under logo region, on the right and left portion and on the right side of neck region, as shown by circles in respective photographs. Further, the photographs marked A12 and exemplars were found characteristically similar indicating that the face of the real person (A12) along with neck portion has been deliberately altered/morphed [7] in order to impersonate (A2) as real person (The same is shown in details in figs **FIG: F & G**).

VI. RESULT

From the aforesaid research work it is evident that not only the writings on two admit cards issued for different examination (**Fig: A & Fig: B**) belongs to two different persons but also the photographs on the corresponding admit card belong to two different persons establishing the fact that the real person appeared only in one level of examination but did not appear in the another level examination.

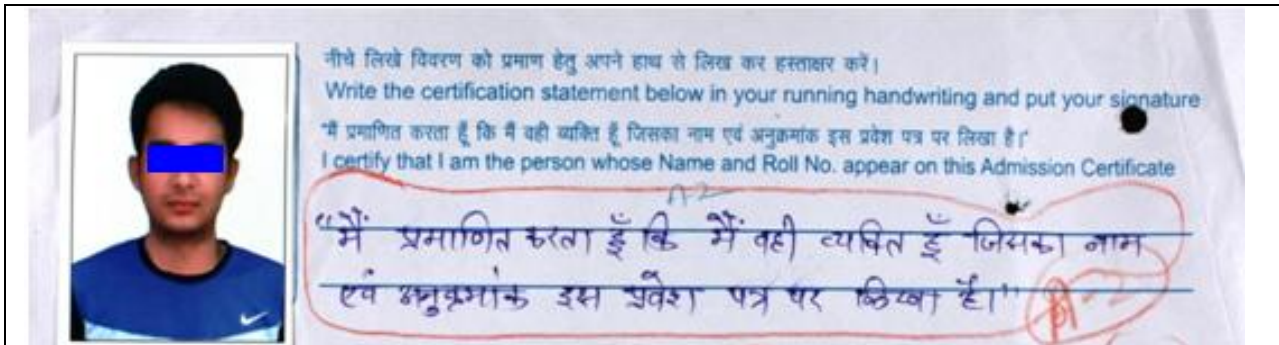


Fig:A- Questioned Admit card marked A2 along with photograph.

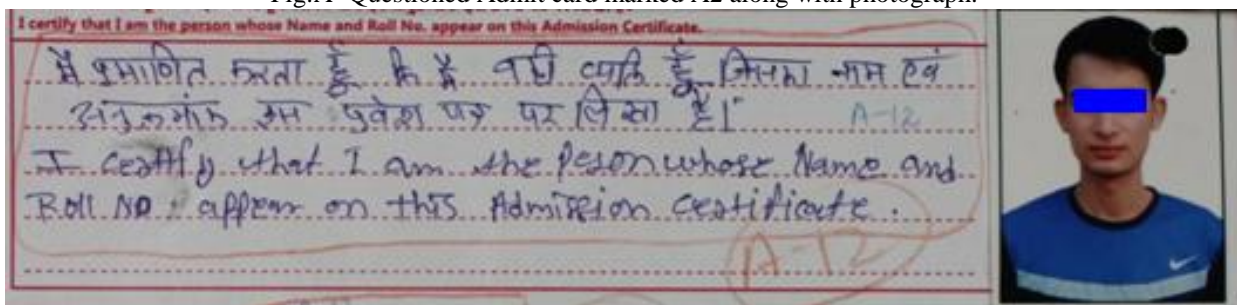


Fig:B- Questioned Admit card marked A12 along with photograph considered as standard as it exhibits class and individual characteristics similarities in the writing habits with other standards.

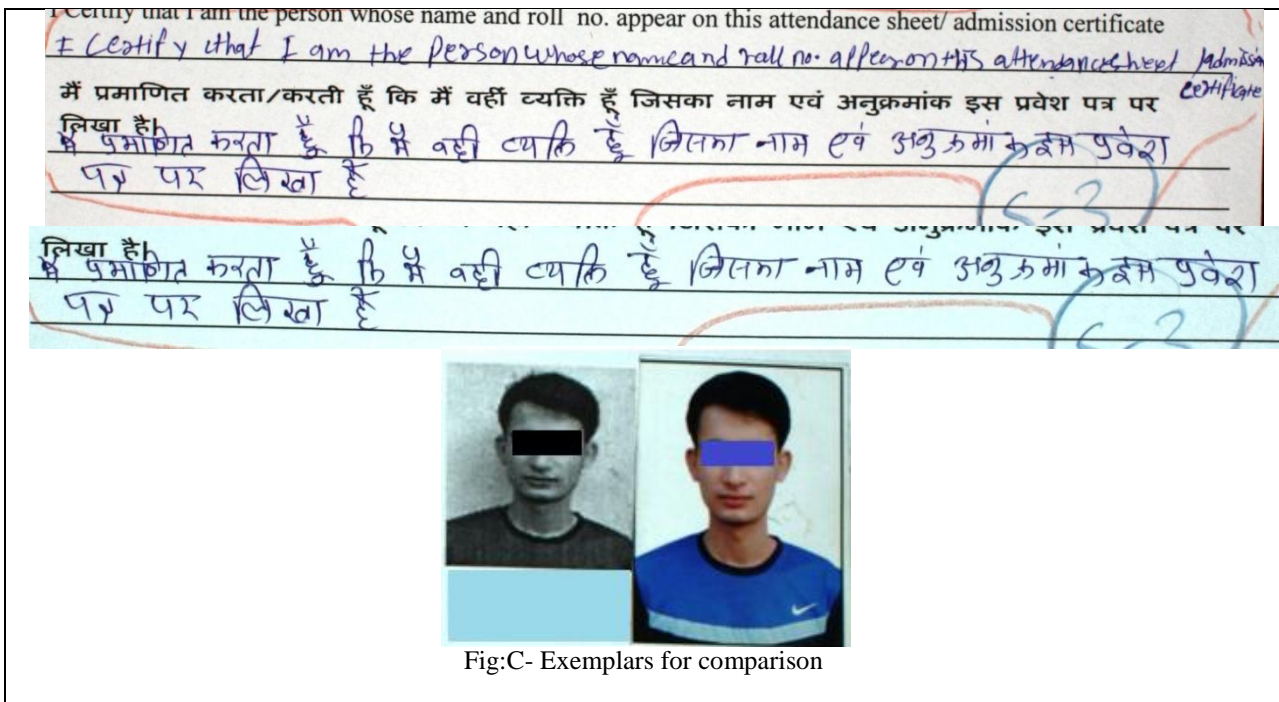


Fig:C- Exemplars for comparison

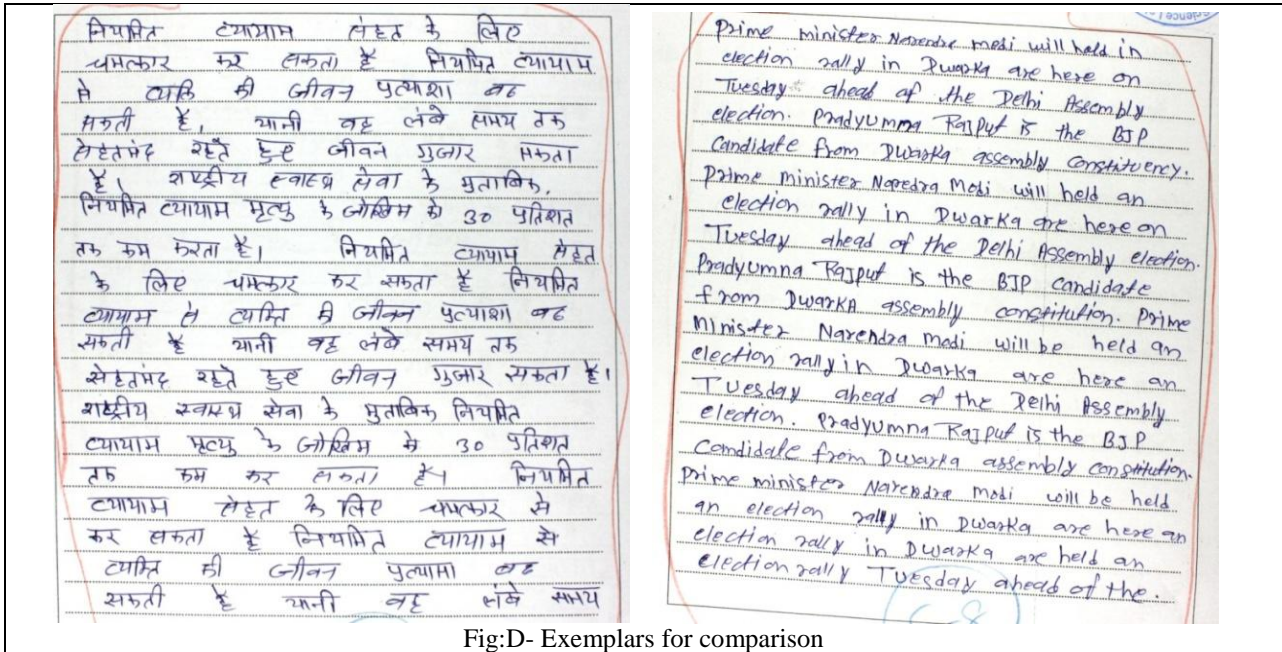


Fig:D- Exemplars for comparison

QUESTIONED-ADMIT CARD A2	STANDARDS AND ADMIT CARD –A12
<p>प्रमाणित अनुक्रमिक पत्र पर इस लिखा</p>	<p>प्रमाणित वा ह प्रमाणित अनुक्रमिक पत्र पर इस लिखा</p>
<p>certify that</p>	<p>certify that</p>
<p>appear</p>	<p>appear</p>
<p>whose</p>	<p>whose</p>
<p>this</p>	<p>this</p>

Fig:E- Juxtaposed chart showing divergences between writings on questioned admit card(A2) vis-a-vis standard writings along with writings on admit card (A12)

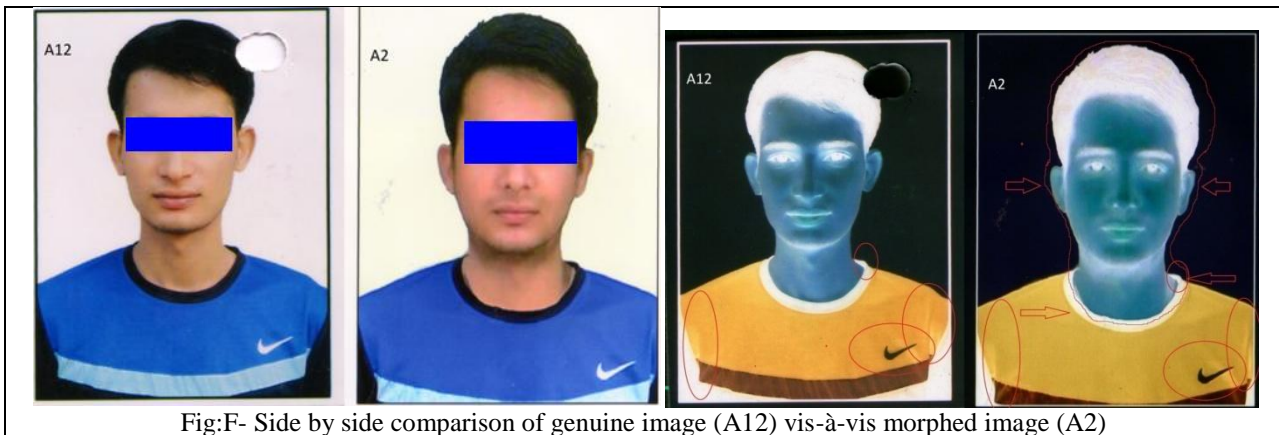


Fig:F- Side by side comparison of genuine image (A12) vis-à-vis morphed image (A2)

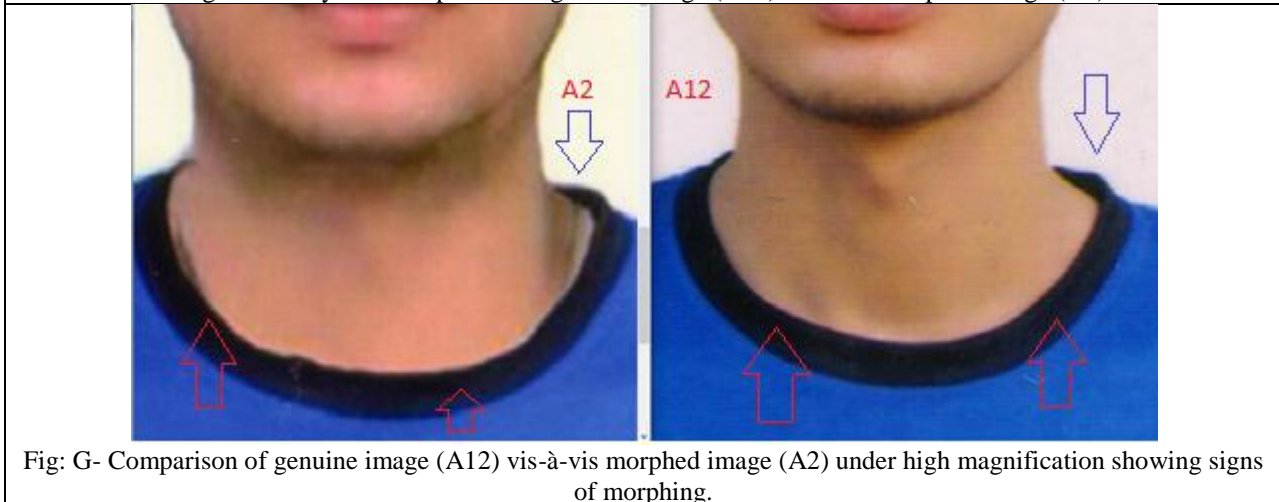


Fig: G- Comparison of genuine image (A12) vis-à-vis morphed image (A2) under high magnification showing signs of morphing.

VII. CONCLUSION

By careful and thorough scientific examination of such type of recruitment documents the forensic experts not only can examine the writings but also can identify the impersonator by collective collaboration of certain forensic science domains which can complement and strengthen each other findings. In present work the authors not only proved that the real person did not appear in the examination but also identified the impersonator by examining his writings[8] and morphed image at various stages of examination. Forensic scientists may play an important role to differentiate between truths and lie in order to secure a conviction and thus prove that they are the integral part of criminal justice system. The quality of photography/video recording of the person(s) appearing in various recruitment stages as well as of their writings is extremely important in such type of impersonation cases. Thus by cautious examination of photos as well as signatures/writings[9] from the records vis-a- vis of the person appearing for examination, the invigilator himself as a component of preventive forensics may be able to confiscate the impersonator while performing the duties honestly. Such type of impersonation cases can be prima facie detected and prevented during the recruitment process itself and may disseminate a strong message to the culprits that they may not succeed in snatching the jobs from the worthy candidates and this menace may be stifled to a greater extent.

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Source of Figure A to G: All the images were captured during case based R&D by the authors.



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