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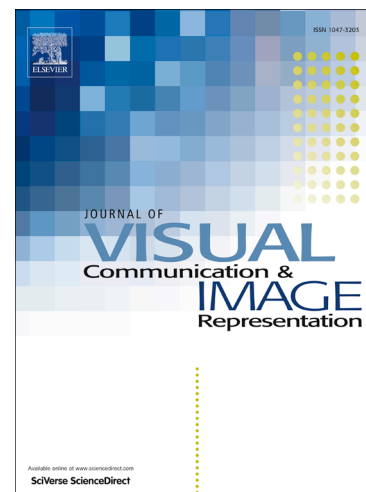
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## An Overview of Face-related Technologies

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### Abstract

In recent years, information technology is developing continuously and set off a burst of artificial intelligence boom in the field of science. The development of advanced technologies such as unmanned driving and AI chips, is the extensive application of artificial intelligence. Face-related technologies have a wide range of applications because of intuitive results and good concealment. Since 3D face information can provide more comprehensive facial information than 2D face information, and it can solve many difficulties that cannot be solved in 2D face recognition. Therefore, more and more researchers have studied 3D face recognition in recent years. Under the new circumstances, the research on face are experiencing all kinds of challenges. With the tireless of many scientists, the new technology is also making a constant progress, and in the development of many technologies it still maintained its leading position. In this paper, we simply sort out the present development process of facial correlation technology, and the general evolution of this technology is outlined. Finally, the practical significance of this technology development is briefly discussed.

**Key words:** face recognition, face enhancement, 3D face reconstruction, deep learning

### 1. Introduction

Human face is the most important and direct carrier of human emotion expression and communication. A person's race, region, even identity and status can be inferred from his face. People can also get the personality and emotional state of each other through the rich, complex and small changes in their faces. The scientific community studies human faces from computer graphics, image processing, computer vision, anthropology and other disciplines. With the continuous progress of society and the urgent need for fast and effective automatic authentication in all aspects, biological characteristics as a person a kind of intrinsic attributes, and has a strong own stability and individual differences, face feature has become a hot topic studied by people. And we can make further analysis on the results of face recognition, and obtain a lot of extra rich information about people's gender, expression, age and so on, which expands the application prospect of face correlation.

### 2. Research background and current situation

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