Through a dispersed network of cameras, face recognition of video surveillance tries to precisely identify the presence of a target person. 1) Still-to-video face recognition(e.g. watch-list screening) and 2)video-to-video face recognition are two popular forms of these applications (e.g. face re-identification)[5].Low resolution (LR) and high noise, fluctuations in numerous angles and distances, and fluctuating lighting conditions provide difficulties in video surveillance. To match high-resolution (HR) photographs with low-resolution (LR) images in surveillance films, a novel face recognition method for low-resolution cameras is proposed in [8]. [12] created a reliable real-time face recognition technique that enhances photos and finds faces in movies using super-resolution. [15] introduces a novel feature descriptor and classification scheme for recognizing the face from low quality videos, which uses Fractional Krill-Lion Algorithm Based Actor Critic Neural Network. [16] employs multi-resolution convolutional neural networks and anti-aliasing techniques to address the low-resolution issue.

Face recognition systems that perform well in controlled scenarios do not perform satisfactorily in uncontrolled scenarios due to the differences between the source and target domains. The majority of current face recognition in the video surveillance industry uses a closed-set format where only the identity of previously registered objects is recognized. As a result, open-set techniques to face recognition in video surveillance have become more popular [6]. These approaches include multi-class classification and rejection procedures. In order to address the issue of open-set single-sample face recognition in a practical video surveillance scenario, [9] suggests using a fuzzy ARTMAP neural network, which can identify faces in near-frontal views under diverse lighting and facial expression conditions. [11] proposed an automatic pose normalisation technique without model fitting and human intervention, which greatly improves the performance of open-set single-sample face recognition methods in surveillance environments.

Main categories of face recognition methods are conventional and deep learning methods. Conventional methods rely on manual feature extraction techniques and pre-trained classifiers and fusion, while deep learning methods use large amounts of data to automatically learn features and classifiers through convolutional neural networks and non-linear feature mapping. The Haar Cascade, Geometry contour generation and matching, Histograms of Oriented Gradients, Back-Propagation Artificial Neural Network (BP-ANN), and Convolutional Neural Network are a few of the well-known face recognition algorithms[7]. [13] introduced the RFR-DLVT hybrid technique based on Deep Learning (DL) and visual tracking (FR).In [10], an optimal feature extraction technique is used to present a framework for face detection and recognition. Recent studies have shown that in recognition models, patch-attention is strictly more effective than convolution. In [14], a Patch-Attention Generative Adversarial Network (PA-GAN) model is created to aggregate some strong characteristics on behalf of a collection of unprocessed surveillance frames, which not only improves the face matching accuracy but also lowers the computational expenses.

With the development of artificial intelligence technology, AI face recognition technology combined with surveillance camera technology has become an important means to obtain effective information and improve analysis efficiency for mega-city governance. The problem of privacy leakage while applying it on a large scale has caused widespread concern, and this paper attempts to address the problem from the perspective of human-like cognition..

通过分散的摄像机网络，视频监控的人脸识别试图精确识别目标人物的存在。1) 静态到视频的人脸识别（如监视名单筛选）和2) 视频到视频的人脸识别是这些应用的两种流行形式（如人脸重新识别）[5]。低分辨率（LR）和高噪音、众多角度和距离的波动以及波动的照明条件给视频监控带来了困难。为了使监控影片中的高分辨率（HR）照片与低分辨率（LR）图像相匹配，[8]中提出了一种用于低分辨率相机的新型人脸识别方法。[12]创造了一种可靠的实时人脸识别技术，利用超分辨率增强照片并在电影中找到人脸。[15]介绍了一种新型的特征描述符和分类方案，用于从低质量的视频中识别人脸，该方案使用了基于演员批判神经网络的分数克里尔-狮子算法。[16]采用了多分辨率卷积神经网络和抗锯齿技术来解决低分辨率问题。

由于源域和目标域之间的差异，在受控场景中表现良好的人脸识别系统在非受控场景中的表现并不令人满意。目前视频监控行业中的大多数人脸识别都使用封闭集格式，只识别先前注册的对象的身份。因此，视频监控中的人脸识别的开放集技术已经变得更加流行[6]。这些方法包括多类分类和拒绝程序。为了解决实际视频监控场景中的开放式单样本人脸识别问题，[9]建议使用模糊ARTMAP神经网络，该网络可以在不同的照明和面部表情条件下识别近额的人脸。[11]提出了一种无需模型拟合和人工干预的自动姿态归一化技术，极大地提高了监控环境中开集式单样本人脸识别方法的性能。

人脸识别方法的主要类别是传统方法和深度学习方法。传统方法依赖于人工特征提取技术和预训练的分类器和融合，而深度学习方法则通过卷积神经网络和非线性特征映射，利用大量数据自动学习特征和分类器。Haar Cascade, Geometry contour generation and matching, Histograms of Oriented Gradients, Back-Propagation Artificial Neural Network (BP-ANN), and Convolutional Neural Network 是几个著名的人脸识别算法[7]。[13]介绍了基于深度学习（DL）和视觉跟踪（FR）的RFR-DLVT混合技术。在[10]中，使用了一种最佳特征提取技术来提出人脸检测和识别的框架。最近的研究表明，在识别模型中，补丁-注意力严格来说比卷积更有效。在[14]中，创建了一个补丁-注意力生成对抗网络（PA-GAN）模型，代表未处理的监控帧集合的一些强特征，这不仅提高了人脸匹配的准确性，也降低了计算费用。

随着人工智能技术的发展，人工智能人脸识别技术与监控摄像技术相结合，已成为特大型城市治理中获取有效信息、提高分析效率的重要手段。在大规模应用的同时，隐私泄露的问题引起了人们的广泛关注，本文试图从类人认知的角度来解决这个问题。

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