Of the various cognitive processes exhibited by humans, the most important is the ability to learn and recall. Human memory is thought to be automatically associative. It can store learned concepts in memory and recall them when it sees partial or broken patterns. In much of the research in artificial intelligence, we have tried to mimic the behaviour of the human brain. Ideas from AI provide a useful formal theory to explain aspects of human learning. In turn, ideas from cognitive science and neuroscience can provide direction for AI research to make algorithms more like humans. There is already a lot of research in human-like cognition.

Humans spontaneously organise continuous experience into discrete events and use the learning structure of these events to generalise and organise memory. The Structured Event Memory (SEM) model of event cognition was introduced in [44], which illustrates the human capacity for event segmentation, memory and generalisation. In [45], a new model Human-Like Visual Cognitive and Language-Memory Network for Visual Dialog (HVLM) is proposed to simulate global and local dual-view cognition in the human visual system for comprehensive understanding of images.The KID (Knowledge-Information-Data) model as a cognitive model was originally proposed by Huang's research team for business intelligence. It aims to mimic human cognitive learning by abstracting human information processing into the following three stages: data interpretation, information assimilation and knowledge instantiation. It is a model with high-level abstractions and a generic framework that can accommodate a variety of realistic cognitive learning applications." The term "memory network" refers to an architecture for memorising the learning content in a network and training it in conjunction with other machine learning methods. It consists of four components: input, generalisation, output and response components, and long-term memory. [42] looks closely at the components of the KID model and the 'memory network' architecture, in order to understand the relationship between them, and finds that memory networks can provide a partial implementation of the KID model. [43] proposed an associative memory framework with a novel neural network storage architecture to simulate human associative memory capabilities for machine intelligence, which was designed to incorporate a variety of neuroscientific theories related to associative memory. Cognitive models are laborious to develop, need to consist of multiple types of computational tasks, and have poor performance as they are usually designed in a high-level language like Python. [41] Distill, a domain-specific compilation tool, is proposed to accelerate cognitive models while continuing to provide cognitive scientists with the ability to develop models in a flexible high-level language.

However, there are few studies applying human-like memory to face privacy protection under large-scale cameras, and this paper explores new application areas for human-like memory from the perspective of human-like cognition, and conducts fundamental theoretical research for exploring new models for large-scale camera urban applications.

在人类表现出的各种认知过程中，最重要的是学习和回忆的能力。人类的记忆被认为是自动联想的。它可以将学到的概念储存在记忆中，并在看到部分或破碎的模式时回忆起来。在人工智能的许多研究中，我们都试图模仿人脑的行为。来自人工智能的想法为解释人类学习的各个方面提供了一个有用的形式理论。反过来，来自认知科学和神经科学的想法可以为人工智能研究提供方向，使算法更像人类。在类似人类的认知方面已经有了很多研究。

人类自发地将连续的经验组织成离散的事件，并利用这些事件的学习结构来概括和组织记忆。在[44]中介绍了事件认知的结构化事件记忆（SEM）模型，它说明了人类对事件的分割、记忆和概括能力。在[45]中，提出了一个新的模型Human-Like Visual Cognitive and Language-Memory Network for Visual Dialog (HVLM)，以模拟人类视觉系统中的全局和局部双视角认知，从而全面理解图像。KID（知识-信息-数据）模型作为一种认知模型，最初是由Huang的研究团队提出的，用于商业智能。它旨在模仿人类的认知学习，将人类的信息处理抽象为以下三个阶段：数据解释、信息同化和知识实例化。它是一个具有高级抽象的模型和通用框架，可以容纳各种现实的认知学习应用"。术语 "记忆网络 "是指在网络中记忆学习内容并与其他机器学习方法一起训练的架构。它由四个部分组成：输入、概括、输出和反应部分以及长期记忆。[42]仔细研究了KID模型的组成部分和 "记忆网络 "架构，以了解它们之间的关系，并发现记忆网络可以提供KID模型的部分实现。[43]提出了一个具有新颖的神经网络存储架构的联想记忆框架，以模拟人类的联想记忆能力，用于机器智能，该框架旨在纳入与联想记忆相关的各种神经科学理论。认知模型的开发很费力，需要由多种类型的计算任务组成，而且性能不佳，因为它们通常是用Python这样的高级语言设计的。[41]Distill，一个特定领域的编译工具，被提出来加速认知模型，同时继续为认知科学家提供用灵活的高级语言开发模型的能力。

然而，将类人记忆应用于大规模摄像头下的人脸隐私保护的研究很少，本文从类人认知的角度探讨了类人记忆的新应用领域，并为探索大规模摄像头城市应用的新模型进行了基础理论研究。

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[45] K. Sun, C. Guo, H. Zhang, and Y. Li, "HVLM: Exploring Human-Like Visual Cognition and Language-Memory Network for Visual Dialog," Information Processing & Management, vol. 59, no. 5, p. 103008, 2022/09/01/ 2022.

认知模型通常是用Python等高级语言开发的，开发起来很费劲，而且模型性能不佳。