#### VISAR: A Human-AI Argumentative Writing Assistant with Visual Programming and Rapid Draft Prototyping

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| 1.human-ai 议论文写作 |
| However, this approach often neglects implicit writing context and user intent, lacks  support for user control and autonomy, and provides limited assistance for sensemaking and revising writing plans.  implicit writing context上下文写作或语境写作 ->涉及前后语句相互连接->记忆 |
| Introduction：  说明议论文写作，需要涉及两个方面：1-论点与子论点之间的逻辑关系；2-子论点之间的逻辑关系； |

文字类工作涉及的东西：

1. 整体逻辑对不对；上下文怎么样，互相涉及互相了解对方？
2. 同级之间是否对应？逻辑对不对，语法是否对应？会不会导致是不同人写的感觉？

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| To address these gaps, we introduce VISAR12, a human-AI collaboration system that supports writers in the hierarchical and  iterative planning process of argumentative writing.  human-AI collaboration system 人-ai协作系统？协作体现在哪里？ |

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| 创新的方法（novel approaches）：写作 中融入了可视化编程以及快速原型设计  During the ideation process, VISAR employs a state-of-the-art LLM to assist writers in interactively exploring potential discussion points using a “chain of thought” approach [76] (Figure 3).  使用思维链方法：    选中议论文中心论点  **不是一步到位直接生成**围绕中心论点的议论文文章（->参考chatgpt交互界面）  而是**一步一步进行生成**：（对主要任务进行分解成一个一个子任务）  This method allows writers to monitor and evaluate the ideation process across different abstraction levels and facilitates the gradual refinement of the language model’s  thoughts in a step-by-step manner, enabling it to evolve its context understanding and provide context-consistent suggestions that respond to writers’ needs  上下文连贯如何体现？说是采用思维链的方式来达到上下文对齐连贯的作用。  整体来说，就是把一个议论文的任务进行细化，然后在最后一步生成整体议论文的时候再做一步类似大纲的界面，然后再根据大纲进行最后一步议论文的生成。  However, we argue that the chat interface is not the ultimate solution for tasks like this. As evidenced by the influential Direct Manipulation vs. Agent debate [64] over  two decades ago, a direct manipulation interface offers several key advantages over agents, including better transparency into the system’s state, easier error handling, finer granularity of user control, useful constraints to guide user actions, and more visible system  affordances.  论文者用这句话可能是想说：  为何不用chatgpt聊天界面进行议论文生成呢，它也能依靠自己的记忆点对某一个section进行修改呀？对这个问题进行反驳，说是直接操控界面（不用chatgpt而是用专注于写议论文的系统）会带来更好的效果。  a new approach that uses visual programming and rapid prototyping strategies to achieve **effective collaboration between human writers and LLMs** with adequate user control  and autonomy in the ideation and planning stages of argumentative writing.  协同交互在这篇论文中主要是讲：使用了可视化编程和快速原型设计协同技术进行协同操作。  **Related work：**  Our work focuses on employing AI to streamline the initial prewriting and planning stages of argumentative writing. The goal is to inspire writers and generate early drafts that serve mainly to enhance understanding and make sense of complex writing topics,rather than incorporating AI-generated content in the final product[21], a practice that could raise ethical concerns.  这句话：研究者如何使用人工智能来辅助写作过程的早期阶段。他们的目标不是用AI直接生成最终的写作内容，而是使用AI作为一个工具来帮助作者更好地理解复杂的写作主题，并产生初步的草稿。这样做可以避免将AI生成的内容直接包含在最终作品中，这可能会引起关于作品原创性和道德责任的问题。  看到这里，感觉它主要是用ai进行生成草稿，而不是议论文的最终内容。希望作者能通过该工具对自己的议论文的写作有帮助作用。->如果不这么说，1-会涉及知识版权问题；2-自我感觉用这个生成议论文还是差了点，不同人表达写作都不太一样。（写作风格） |

#### Sensecape: Enabling Multilevel Exploration and Sensemaking with Large Language Models

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| **"within-subject user study"** 是指在用户研究中，每个参与者都经历所有不同的条件或处理。这种设计也被称为重复测量设计或受试者内设计。  例如，如果我们正在测试一个新的应用程序界面，我们可能会让每个用户在不同的时间点尝试旧的界面和新的界面，然后比较他们的反应。  Therefore, the goal of this research is to reconcile this mismatchand enable a fuidexploration and sensemaking workfow withLLMs by exploring how they should be integrated with the diverse structures often employed in information tasks.  在chatgpt中，线性交流过长使得用户需要滚动鼠标去寻找关键点，为了避免这种情况，就是把一些分散的信息进行整合起来。  总得来说，利用选中文字生成一个文本卡片，该卡片中，可以利用chatgpt进行拓展内容，也可以与其他卡片进行链接，也可以新建、修改卡片。  希望对复杂信息整合以及理解有帮助。  信息冗杂，不能很好地被我们所吸收。->进行精炼和整理 |

#### Generative Agents: Interactive Simulacra of Human Behavior

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| Generative Agents: Interactive Simulacra of Human Behavior  生成代理：人类行为地交互式模拟  **Abstract——**  主要是讲让chatgpt在模拟人生这个游戏中模拟人，并进行一系列人类社会活动的行为。  We demonstrate through ablation that the components of our agent architecture—observation, planning, and refection—each contribute critically to the believability of agent behavior.  消融实验，也称为控制变量法，是通过在原始模型中去除或替换某些部分来评估这些部分对整体系统性能的影响。这种方法可以帮助研究者理解复杂系统中各个组件的作用和重要性。在实施消融实验时，研究者通常会逐步移除模型的某些层或功能，然后观察这种变化如何影响模型的性能。通过这种方式，可以识别出哪些部分是关键的，哪些可能是冗余的或者不那么重要的。  Looking ahead,we suggest that **generative agents** can play roles in many interactive applications, ranging from design tools to social computing systems to immersive environments.  **generative agents**生成式代理：  展望未来，我们认为生成代理在许多交互式应用中都能发挥作用，范围从设计工具到社会计算系统，再到沉浸式环境。  **1 Introduction——**  Generative agents, believable simulacra of human behavior that are dynamically conditioned on agents’ changing experiences and environment.  changing experiences and environment 那么，代理ai如何根据改变的经验以及环境而做出决策呢？  Discussion of the opportunities and ethical and societal risks of generative agents in interactive systems. We argue that these agents should be tuned to mitigate the risk of users forming parasocial relationships, logged to mitigate risks stemming from deepfakes and tailored persuasion, and applied in ways that complement rather than replace human stakeholders in design processes.  that complement rather than replace human 起到补充的作用而不是代替人类  **2 RELATED WORK——**  Rule-based approaches, such as finite-state machines [91, 97] and behavior trees [41, 54, 82] account for the brute force approach of human-authoring the agent’s behavior [71].  finite-state machines ：有限状态机  Finite-state machines（有限状态机）是一种计算模型，用于描述系统在不同状态间转换的行为。  有限状态机（Finite-state machine，简称FSM）是一种抽象的机器，它能根据输入和当前状态决定下一个状态以及可能的输出。这种机器在任何时刻都处于一个特定的状态中，并且能在一系列定义好的状态之间进行转换，这些状态的数量是有限的。以下是有限状态机的几个关键特点：  有限数量的状态：如其名所述，FSM只能有有限个状态，每个状态代表系统的一种情况或配置。  初始状态：FSM有一个起始状态，这是系统启动时所处的状态。  输入和输出：FSM接收输入并根据当前状态和输入产生输出，然后转移到新的状态。  状态转移规则：FSM有一组定义好的规则，称为状态转移函数，它们指定了在给定输入下从一个状态转移到另一个状态的逻辑。  终态：在某些FSM设计中，可能有终止状态或接受状态，表示某个任务已完成或某个条件已满足。  总的来说，有限状态机被广泛应用于各种领域，包括计算机科学、电子工程、自动化和游戏开发等。它们对于理解和设计系统行为非常有用，尤其是在系统的行为模式相对简单且可以预先定义的情况下。  First-person shooter games:  First-person-玩家从主观视角体验游戏  They maintained short-term and long-term memories, flled these memories with symbolic structures, and operated in perceive-plan-act cycles, dynamically perceiving the environment and matching it with one of the manually crafted action procedures [58, 97].  他们保持了短期和长期记忆，用象征性结构填充这些记忆，并在感知-计划-行动周期中运作，动态地感知环境并将其与手工制作的行动程序之一进行匹配[58, 97]。  感觉这句话说得挺有意思的，后期可以顺着它标识的文献看看。  For example, when presented with a task, such as picking up a bottle, the model is prompted to break down the task into smaller action sequences, such as heading to the table where the bottle is located and picking it up.  将一个任务分解为一个一个小的行动序列。这句话值得细细品。  We posit that, based on the work summarized above, large language models can become a key ingredient for creating believable agents. The existing literature largely relies on what could be considered first-order templates that employ few-shot prompts [38, 66] or chain-of-thought prompts [100]. These templates are effective in generating behavior that is conditioned solely on the agent’s current environment (e.g., how would a troll respond to a given post, what actions would a robot need to take to enter a room given that there is a door). However, believable agents require conditioning not only on their current environment but also on a vast amount of past experience, which is a poor fit (and as of today, impossible due to the ***underlying models’ limited context window***) using  first-order prompting. Recent studies have attempted to go beyond first-order prompting by augmenting language models with **a static knowledge base** and **an information retrieval scheme** [53] or with **a simple summarization scheme** [104]. This paper extends these ideas to craft an agent architecture that handles retrieval where past experience is dynamically updated at each time step and mixed with agents’ current context and plans, which may either reinforce or contradict each other.  large language models can become a key ingredient for creating believable agents： 大语言模型能够在创建可信代理上是一个关键因素。  first-order templates： 第一阶段模板，主要是few-shot 提示词以及提示词思维链。  但是这第一阶段的方法仅仅用于根据当前环境做出反应。  所以呢，当前的研究中，主要是想要超越第一阶段提示词，不仅可以根据当前环境，还可以根据以前的环境做出反应（主要挑战在于：大语言模型的上下文长度的限制）  最近的研究尝试超越一阶提示，通过用静态知识库和信息检索方案[53]或简单的摘要方案[104]来增强语言模型。本文扩展了这些想法，设计了一个代理架构，用于处理检索任务，其中过去的经验在每个时间步长都会被动态更新，并与代理当前的上下文和计划相结合，这些可能会相互加强（过去+现在 行动一致）或相互矛盾（过去+现在 行动不一致）。  **3** **GENERATIVE AGENT BEHAVIOR AND INTERACTION——**  **3.1 Agent Avatar and Communication 角色赋予以及人际关系**  The complete natural language description of the action can be accessed by clicking on the agent’s avatar.  Agent‘s avatar代理化身  Agents communicate with each other in full natural language. They are aware of other agents in their local area, and the generative agent architecture determines whether they walk by or engage in conversation.  代理之间使用完整的自然语言进行交流。它们能够感知到其本地区域内的其他代理，而生成型代理架构决定了它们是路过还是开始对话。  如何感知？  生成代理架构的作用：是否去交流？ 如何实现的？  **信息扩散（八卦传播）->存储记忆->开始协调下一步行动**  **4 GENERATIVE AGENT ARCHITECTURE——**  生成式代理架构？  a core challenge of our architecture is to ensure that the most relevant pieces of the agent’s memory are retrieved and synthesized when needed.  核心挑战是确保在需要时检索并综合代理记忆中最相关的部分。  似乎是说，一切社会行为都是由生成式代理架构发起的。  Creating generative agents that can simulate human behavior requires reasoning about a set of experiences that is far larger than what should be described in a prompt, as the full memory stream can distract the model and does not even currently fit into the limited context window.  创建模拟人类行为的生成式代理需要对一组比提示词描述的内容还要大的一组经验进行推理。  因为完整的内存流会分散模型的注意力并且当前也完全无法适应有限的上下文窗口。  Recency assigns a higher score to memory objects that were recently accessed, so that events from a moment ago or this morning are likely to remain in the agent’s attentional sphere. In our implementation, we treat recency as an exponential decay function over the number of sandbox game hours since the memory was last retrieved. Our decay factor is 0.995.  exponential decay function ：指数衰减函数  理解- [指数衰减公式和应用 - MathCracker.com](https://mathcracker.com/zh/%E6%8C%87%E6%95%B0%E8%A1%B0%E5%87%8F%E5%85%AC%E5%BC%8F)  应用-一个量随着时间推移而减少  Memory and retrieve 观察日记 -> reflection 反思（在观察日记中再度提取或归纳出一条重要的信息）-> planning and reacting 计划和回应  **5 SANDBOX ENVIRONMENT**  **IMPLEMENTATION 沙箱环境实现**  有一个路径树，这个树可以代表沙箱环境，树的结点为环境中的一个实体。  比如厨房中各种餐具。  **6 CONTROLLED EVALUATION 受控评估**  消融实验——trueskill rating |

#### Evaluating Large Language Models in Generating Synthetic HCI Research Data: a Case Study

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| Evaluating Large Language Models in Generating Synthetic HCI Research Data: a Case Study 一个案例研究：大语言模型在生成 合成hci研究数据 中的评估  Synthetic HCI Research Data：合成式hci领域的研究数据（Synthetic HCI Research Data是指合成的人机交互（HCI）研究数据。这种数据通常用于模拟人类与计算机或其他技术设备之间的交互过程，以便在无需实际用户参与的情况下进行研究和测试。）  **ABSTRACT 摘要——** |

## Tailoring Education with GenAI: A New Horizon in Lesson Planning

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| 在教育中的个性化——  Despite these advantages, the application of GenAI in student evaluation raises critical issues, notably regarding data privacy and the potential for bias. The use of detailed student  data by AI systems for assessment purposes brings to the forefront significant concerns about privacy and data security, as explored in [13]. Moreover, the possibility of AI algorithms perpetuating existing biases, leading to unfair and skewed assessments, is a critical concern that must be addressed. Gaskins in [14] provides an in-depth examination of this issue, highlighting the need for careful and ethical implementation of AI in educational assessments.  尽管有这些优势，GenAI在学生评估中的应用引发了关键问题，特别是关于**数据隐私和潜在的偏见**。正如[13]所探讨的那样，人工智能系统使用详细的学生数据进行评估，成为对隐私和数据安全的首要关注。此外，人工智能算法可能会延续现有的偏见，从而导致不公平和扭曲的评估，这是一个必须加以解决的关键问题。[14]中的加斯金斯对这一问题进行了深入的研究，强调了在教育评估中谨慎和合乎道德地实施人工智能的必要性。  METHODOLOGY方法——  Building upon the theoretical foundations and prompt engineering strategies discussed in the previous section, we hereby introduce our cutting-edge methodology for constructing interactive prompts with GenAI tools. Moving beyond standard AI practices, our approach engages GenAI in a user-centric dialogue thoughtfully designed to exchange prompts and responses (follow-up prompts). This exchange is intended to navigate GenAI through complex workflows by replicating the conversational dynamics of human engagement. Our  method establishes a two-way communication channel, allowing GenAI to interact with users, building upon their inputs with progressive dialogue to refine solutions collaboratively.  在上一节讨论的理论基础和即时工程策略的基础上，我们在此介绍我们利用生成式人工智能（GenAI）工具构建交互式提示的前沿方法。我们的方法超越了标准的人工智能实践，将生成式人工智能纳入精心设计的以用户为中心的对话中，以实现提示和响应（后续提示）的交换。这种交换旨在通过模仿人类参与的对话动态，引导生成式人工智能完成复杂的工作流程。我们的方法建立了一个双向通信渠道，使生成式人工智能能够与用户进行交互，并根据用户的输入，通过逐步对话来共同完善解决方案。  Interactive Prompt交互式提示词-设定提示词步骤，让llm遵循这个提示词步骤，进而引导教师。 |

## ChatGPT and Generative AI: Possibilities for Its Contribution to Lesson Planning, Critical Thinking and Openness in Teacher Education

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| Experts in education and innovation state that since ChatGPT and  other generative AI tools are a part of young people’s lives and will continue to be so, ways  must be found to incorporate them into education. 教育和创新方面的专家指出，由于ChatGPT和其他生成式人工智能工具是年轻人生活的一部分，并将继续是这样，因此必须找到将它们纳入教育的方法.  By making ChatGPT (and similar language models such as BERT, GPT-3 and RoBERTa) more accessible and understandable, schoolteachers and student teachers can use this tool to enhance efficiency, effectiveness and openness in education.  Schoolteachers：正式教师  Student teachers：学生教师（正在接受教师培训的学生）  教育开放性：设计教育差异、教育公平、教育多样性 （突破、打破限制 ）  Authors have briefly mentioned or referred to aspects of  lesson planning (e.g., [8,9]), but no research articles that focus on GPT-generated lesson  planning and the implications for teacher education could be found. The gap in the  literature on education has been noted, and this article contributes to the filling of this gap.  For this reason, its focus is to share and discuss an example of a ChatGPT-generated lesson  plan, followed by the implications that generative technology such as ChatGPT might have  for teacher education.  研究者们曾简要提及或提到了课程规划的各个方面（例如[8,9]），但未找到聚焦于 GPT 生成的课程规划以及其对教师教育影响的研究文章。教育文献中的这一空白已被注意到，而本文有助于填补这一空白。出于这个原因，本文的重点是分享和讨论一个由 ChatGPT 生成的课程规划示例，以及像 ChatGPT 这样的生成技术可能对教师教育产生的影响。  As the purpose of ChatGPT is to assist its users in generating text, we agree with Tlili et al. [6] that, as a revolutionary generative AI tool, ChatGPT is a visible signal for a paradigm shift in different fields, including education.  由于 ChatGPT 的目的是协助其用户生成文本，我们同意蒂利等人[6]的观点，即作为一种革命性的生成式人工智能工具，ChatGPT 是包括教育在内的不同领域范式转变的一个明显信号。  在我的理解中，范式转变主要是一个新的技术渐渐能融合入某个领域，从而变得常态化，而不是仅仅就是一个新的技术。  As the purpose of ChatGPT is to assist its users in generating text, we agree with  Tlili et al. [6] that, as a revolutionary generative AI tool, ChatGPT is a visible signal for  a paradigm shift in different fields, including education. Along the same lines, Hong [8]  argues that ChatGPT is the game changer that education needs to cause substantial changes in the obdurate education system in order to improve teaching and learning effectiveness. 由于 ChatGPT 的目的是协助其用户生成文本，我们同意蒂利等人[6]的观点，即作为一种革命性的生成式人工智能工具，ChatGPT 是包括教育在内的不同领域范式转变的一个明显信号。同样，洪[8]认为，ChatGPT 是教育所需的变革者，能给顽固的教育系统带来实质性的改变，以提高教学和学习的效果。  obdurate education system：顽固的教育体系  According to Phillips [9], “[t]he job of the educator is to hold the hand of the student  as they go through the process of learning and to remind them of what the integrity of  the learning process requires. It’s not about getting the answer, it’s about the process of  learning.  根据菲利普斯[9]的观点，“教育者的工作是在学生学习的过程中牵着他们的手，提醒他们学习过程的完整性所需要的东西。这不是为了得到答案（结果），而是关于学习的过程。  这句话在我理解上，是想说更加注重学习的过程，而不是只以结果为导向。  **Disadvantaged** communities and citizens弱势群体和公民  2.3. ChatGPT, Critical Thinking and Openness in Education  读完这段话，感觉它的开放性主要是chatgpt是否能开放使用—感觉是，但是呢，读到后面，有感觉它别有深意。  According to Sherrington [18], in a class of multiple individuals, there is no straightforward way to find out how successfully each individual person is learning and identify what their difficulties or gaps are and then use that information to close their learning gaps with appropriate responses.  根据谢林顿[18]的观点，在一个由多个个体组成的班级中，没有简单直接的方法来了解每个人的学习成功程度，确定他们的困难或差距是什么，然后利用这些信息以适当的回应来缩小他们的学习差距。 |

## Using ChatGPT for Science Learning: A Study on Pre-service Teachers’ Lesson Planning

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| ChatGPT’s chatbot-like front-end attributes augment the user experience compared to the back-end GPT-3.5 and GPT-4 models, showcasing the evolution of LLMs into user-centric  learning tools.  “增强了用户体验”意味着与后端模型相比，ChatGPT 的前端特点使得用户在使用过程中感觉更加舒适、便捷、高效，满足了用户的需求和期望。  “展示了大型语言模型向以用户为中心的学习工具的演变”，这表明 ChatGPT 的出现和其特点体现了大型语言模型不再仅仅是技术上的复杂系统，而是逐渐转变为更加关注用户需求、以用户为导向的学习辅助工具。这种演变反映了技术发展更加注重用户的使用感受和实际效果，旨在更好地服务于用户的学习和应用场景。  Teachers, whether consciously or subconsciously, design their lesson plans before instruction, implement them, and gather feedback to improve their teaching. A lesson plan serves as a pivotal tool for teachers to systematize and model instructional practices [40].  教师们，无论是有意识地还是潜意识地，都会在教学前设计他们的教案，实施教案，并收集反馈以改进他们的教学。教案是教师用来使教学实践系统化和模式化的关键工具。  Harris et al. [22] characterize comprehensive practical knowledge as TPACK—Technological, Pedagogical, and Content Knowledge—a cornerstone for teachers to integrate technology into instructional practices, such as lesson planning, in a sound way. Encompassing CK, PK, PCK (where PK and CK intersect),and TK, TPACK offers a framework for evaluating teachers’capability to adeptly, efficiently, and effectively blend technology into instruction [27]. In line with this, numerous studies have examined teachers’ TPACK, probing how it manifests within their lesson plans [42], [43], [44], as well as developing interventions to improve teachers’ TPACK [46], [47].  哈里斯等人[22]将全面的实践知识描述为 TPACK——技术、教学法和内容知识——这是教师以合理的方式将技术融入教学实践（如教案编写）的基石。它涵盖了 CK（内容知识）、PK（教学法知识）、PCK（教学法内容知识，即 PK 和 CK 的交集）和 TK（技术知识），TPACK 为评估教师熟练、高效且有效地将技术融入教学的能力提供了一个框架[27]。与此一致，众多研究已经对教师的 TPACK 进行了调查，探究它如何在他们的教案中体现[42]、[43]、[44]，以及制定干预措施来提高教师的 TPACK[46]、[47]。  TPACK（Technological Pedagogical Content Knowledge）在教育领域指的是“整合技术的学科教学知识”。  它强调教师不仅需要具备学科内容知识（Content Knowledge，CK）、教学法知识（Pedagogical Knowledge，PK）和技术知识（Technological Knowledge，TK），更关键的是能够将这三种知识融合起来，以有效地在教学中运用技术来促进学生对学科内容的理解和掌握。  例如，一位数学教师，不仅要精通数学学科的知识，了解各种有效的教学方法，还要熟悉相关的教育技术，如数学教学软件、在线学习平台等，并能将这些要素整合，设计出适合学生的教学方案，比如利用在线互动工具让学生更直观地理解几何图形的变换。  TPACK 框架为评估教师的教学能力和指导教师的专业发展提供了重要的理论基础和实践方向，帮助教师更好地适应教育信息化的发展趋势，提升教学质量和效果。  When it comes to integrating GenAI, such as ChatGPT, in learning activities in  lesson plans, teachers need additional knowledge to TPACK.This is because, integrating AI tools with learning activities requires an understanding of students’ GenAI literacy, which  includes basic operational skills and an awareness of GenAI’s capabilities, limitations, ethical considerations, and potential impact on learning outcomes [49].  当在教案中的学习活动中整合诸如 ChatGPT 之类的生成式人工智能时，教师需要 TPACK 之外的额外知识。这是因为，将人工智能工具与学习活动相结合需要了解学生的生成式人工智能素养，这包括基本操作技能以及对生成式人工智能的能力、局限性、伦理考量和对学习成果的潜在影响的认识[49]。  \*\*“人工智能素养”\*\* 指的是个人对人工智能的基本知识、原理、应用和影响的理解与掌握程度，以及在日常生活、学习和工作中有效运用人工智能技术和理性对待其带来的各种问题的能力。  具体来说，它包括以下几个方面：  1. 对人工智能基本概念和原理的理解，比如了解机器学习、深度学习、自然语言处理等核心技术的工作原理。  2. 熟悉人工智能的常见应用场景，例如在医疗、交通、教育等领域的实际运用。  3. 能够评估和辨别人工智能应用的可靠性、有效性和局限性。  4. 具备运用人工智能工具解决问题的能力，例如使用智能办公软件提高工作效率。  5. 对人工智能带来的伦理、法律和社会影响有清晰的认识，比如数据隐私保护、算法偏见等问题。  例如，一个具有较高人工智能素养的人，在面对一款新的智能语音助手时，能够理解其背后的技术原理，合理地设置和使用它来满足自己的需求，同时也能意识到可能存在的隐私风险。又比如，在工作中，能够根据任务特点选择合适的人工智能工具，并知道如何正确解读其输出结果。  Moreover, effective GenAI integration into learning activities demands that teachers possess the ability to critically evaluate how students will proceed and deal with AI-generated content, adapt it to suit learning goals, and scaffold student interactions with AI to foster critical thinking, creativity, and digital literacy.  此外，将生成式人工智能有效地整合到学习活动中，要求教师具备批判性评估学生将如何进行和处理人工智能生成的内容的能力，对其进行调整以适应学习目标，并为学生与人工智能的互动搭建支架，以培养批判性思维、创造力和数字素养。  GenAI-TPACK posits that GenAI knowledge should be as practical as possible to facilitate its applications in pedagogical activities, such as lesson planning.  GenAI-TPACK假定生成式人工智能知识应当尽可能实用，以促进其在教学活动（如教案编写）中的应用。 |

## Wordcraft: a Human-AI Collaborative Editor for Story Writing

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| Built-in creative writing assistant内置的创造性写作助手  There has been extensive work moving beyond the continue-my-text generation paradigm by incorporating additional control signals, such as event sequences (Ammanabrolu et al., 2020), desired topic (Keskar et al.,2019), and story title (Fan et al., 2018).  已经有大量工作通过纳入额外的控制信号，如事件序列（Ammanabrolu 等人，2020 年）、期望主题（Keskar 等人，2019 年）和故事标题（Fan 等人，2018 年），超越了连续文本生成范式。  超越了连续文本生成范式：通常的连续文本生成可能就是根据给定的一些开头或提示，按照一定的规律和逻辑持续不断地创作出一段接一段的文字。然而，而超越这种范式，则可能是在生成文本的过程中引入了更多复杂的元素或机制，比如结合特定的事件序列来指导生成、根据设定好的期望主题来约束生成的内容方向、依照给定的故事标题来进行创作等，不再仅仅是单纯地顺着前面的文字不断续写下去。  However, most of these works that give users control beyond left-to-right generation  require explicit training, making it difficult to support a variety of interaction types.  大多数那些能够为用户提供超越传统从左到右顺序生成文本这种控制方式的作品（即上述提到的引入了更多复杂控制信号和创新形式的作品），都需要经过清晰明确的训练过程。而这种明确训练的需求，导致了这些作品难以去支持各种各样不同类型的交互方式。  比如说，如果一个系统需要针对特定的控制方式进行专门且明确的训练，那么当用户想要以新的、未曾训练过的交互方式来使用这个系统时，它可能就无法很好地响应和满足用户的需求，因为它没有针对这种新的交互方式进行过训练。这就限制了系统在交互方面的灵活性和多样性。 |

## The Value, Benefits, and Concerns of Generative AI-Powered Assistance in Writing

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| 文章结构：  **ABSTRACT——**  **Introduction——**  **Related work——**  STUDY DESIGN——  RESULTS——  DISCUSSIONS——  CONCLUSION——  As such, a growing line of research has emerged in designing more effective interfaces to facilitate the communication between humans and their generative AI-powered writing assistants, aiming to unleash the full potential of human-AI collaboration in writing [10, 31, 43, 45].  太高明了，用钱来测试用户心理。  This assistance could also tailor to diverse writing tasks including stories [12, 13, 29, 41, 43, 45, 46], slogans [13],argumentative essays [29], emails [9, 19], and script writing [33]. |