Art × Science

INTERNATIONAL

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Art × Science International unveils AI-powered platform to revolutionize literary accessibility for neurodivergent Individuals

PARIS, France – May 11, 2025 – Non-profit innovator Art × Science International today detailed the advanced AI technology underpinning its mission to adapt literary classics for children and adults with ADHD. By integrating sophisticated Natural Language Processing (NLP) using **GPT-like architectures**, machine learning models, and AI-driven content generation, guided by educational neuroscience experts, Art × Science is creating uniquely accessible reading experiences while preserving the soul of classic literature. All profits are reinvested into expanding this high-tech, accessible content in France.

The organization's core challenge is to make dense literary works digestible and engaging for minds prone to distraction, without sacrificing the original author's unique style or narrative depth. This is achieved through a proprietary AI platform that performs multi-level textual analysis and adaptation. This includes:

- **Advanced NLP for stylometric preservation & complexity reduction:** Art × Science employs cutting-edge NLP algorithms in addition to models inspired by GPT-like architectures and fine-tuned on literary corpora. These models analyze syntactic structures, semantic nuances, and author-specific stylistic markers (stylometry). This allows the AI to identify overly complex sentences and dense paragraphs, which are then intelligently rephrased or broken down. Crucially, the AI is trained to retain the original authorial voice, ensuring stylistic integrity even as readability is enhanced for ADHD individuals.
- **AI-Driven chapter segmentation & narrative pathing:** To combat cognitive overload, the AI platform automatically identifies optimal breakpoints for shorter chapters. For its pioneering non-linear reading feature, the system constructs "story graphs" using **graph databases on Neo4j**, mapping characters, events, themes, relationships, **and crucially, the sequential "plot steps" or elements of the narrative**. **These graphs are visualized, providing users with a clear representation of the story's structure.** The AI utilizes **graph traversal algorithms, such as depth-first search and breadth-first search, to suggest alternative pathways through the narrative**. This enables readers to follow

specific interests (e.g., a character's arc, a particular subplot) while maintaining coherence and engagement.

- **Intelligent visual support generation:** Recognizing the importance of multi-modal input, Art × Science leverages AI to inform the creation of visual aids. While not generating final art, the AI analyzes text for descriptive passages and emotional tone to suggest opportune moments and thematic content for illustrations and visual cues. This helps to reduce mental imagery load and reinforce comprehension.
- **Scalable adaptation engine:** The AI is designed for scalability, enabling the ambitious goal of adapting 4,500 books in three languages. **Our initial focus is comprehensive French content, where we have direct access to educator feedback. These will then be translated into English and Spanish.** This involves automated initial adaptation passes, which are then reviewed and refined by human literary and neurodiversity experts, creating an efficient human-AI collaborative workflow. **We currently rely heavily on human data labeling to identify notable plot points, events, dialogue, and "hard to read" passages to train our models.**

Why This Is a Game-Changer for Tech & AI Media:

- **Sophisticated NLP in action:** Art × Science isn't just using off-the-shelf AI. They are developing and fine-tuning GPT-like architectures and other NLP models specifically for the complex task of literary adaptation for neurodivergent individuals, focusing on the delicate balance between accessibility and artistic fidelity.
- **Human-AI collaboration in content creation:** This initiative showcases an AI model augmenting human expertise. Educational neuroscientists and literary specialists guide the AI's development and curate its output, ensuring pedagogical soundness and literary quality. **Significant human effort is currently dedicated to labeling data that the AI learns from.**
- **Building "Story Graphs" for interactive narratives:** The technology behind a non-linear reading path – involving knowledge graph construction from unstructured text– is at the forefront of interactive storytelling and personalized content delivery. **These are not simple static graphs, but visualized structures of the story including "plot steps".**
- **AI for social change:** This is a prime example of AI being ethically deployed to address significant societal challenges, specifically enhancing cognitive accessibility and promoting inclusivity in cultural engagement.
- **The future of personalized education tech:** The underlying AI framework has potential applications beyond literature, hinting at the future of AI-driven personalized learning tools for diverse cognitive profiles.

"Our AI is not about replacing human creativity but augmenting it to break down barriers to

literature," explained Noé Cabannes Michel, executive at Art × Science International. "We're essentially teaching our models the art of literary empathy – understanding both the author's intent and the reader's cognitive needs. The goal is to transform classic texts into dynamically accessible experiences."

Roadmap & Impact:

- Opening registration for crowdsourcing with microtasks available.
- Further development of the "Sapere aude" project, which will leverage these core AI technologies.
- Distribution of initial copies to teachers, journalists and early supporters for feedback.
- Progressive launch of 4,500 AI-enhanced titles in book stores.

Testimonials from early trials continue to highlight the positive impact, with parents and educators noting significant improvements in engagement and comprehension among children with ADHD.

How to get Involved & technical deep dives:

Art × Science invites technology partners, AI researchers, and individuals to support its mission. Donations are vital for ongoing R&D and content deployment. For a more detailed exploration of their technology stack, potential white papers, or to discuss technical collaboration, contact Noé Cabannes Michel.

For general information, newsletter subscriptions, or donations, please visit https://artxsc.org

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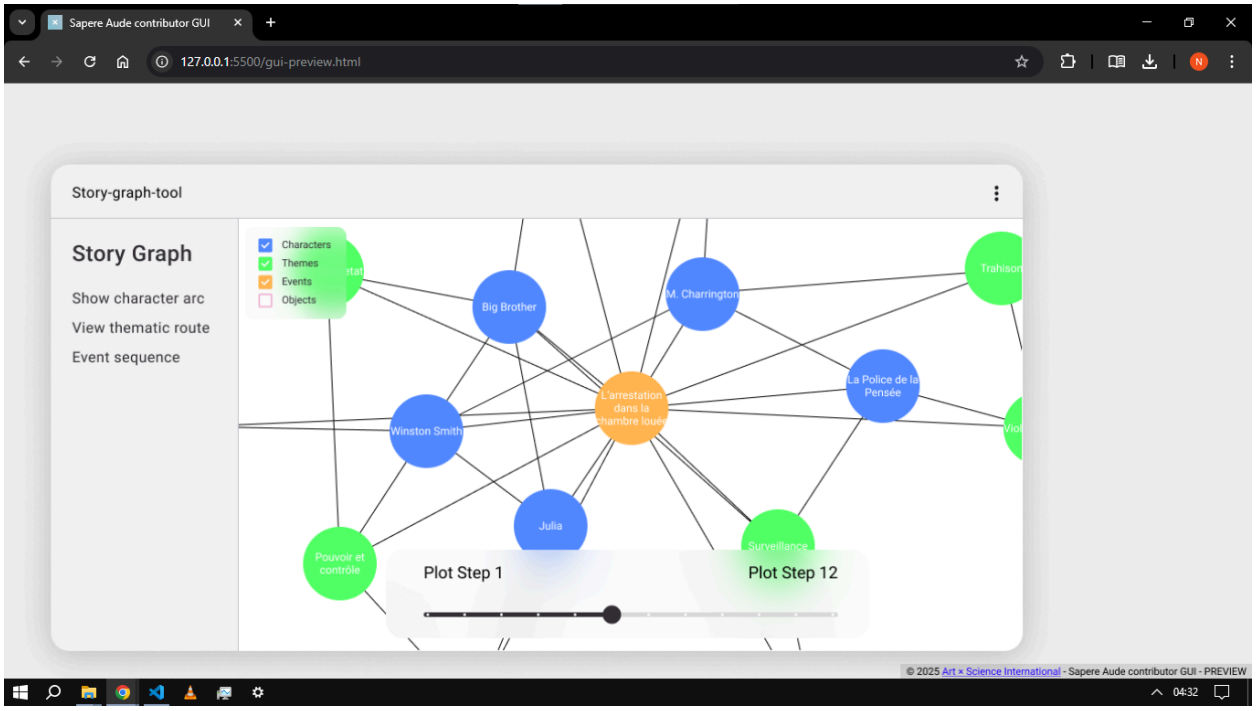
High resolution screenshot available with edition and commercial use allowed:

https://artxsc.org/images/press-preview-sapare-aude-gui.png



NB: You can also use “Art x Science International” instead of “Art × Science International” for the organization’s name.