THE DEEP WATERS OF DEEP LEARNING

THE CURRENT AND FUTURE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE PUBLISHING INDUSTRY.

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Given the ever increasing number of publishers exploring the depths of AI and putting its potential to clever use, critical now is figuring out how to make sure its current and future impact doesn't leave you and your company stranded on shore.

Futuristic applications of artificial intelligence are pervasive in pop culture. At home in their fictional worlds, fantastical machines such as HAL from *2001: A Space Odyssey* or Ultron from *Avengers: Age of Ultron* captivate us with their allure. When it comes to being at home in our world, however, the sole thought of living with Synths suddenly causes some to approach the topic with trepidation.

This fear can be assuaged: artificial intelligence does not yet mean a computer is becoming intelligent the way a human can. Abiding by the tasks and remaining within the restrictions and boundaries we set for them, AI and machine learning are designed to amplify human creativity, not replicate it. In the case of one of the most exciting branches of AI, reinforcement learning, algorithms readjust according to feedback and their accuracy increases, leading to applications that are constantly trying to squeeze even more optimization out of the task you have set for them. This isn't technology created to replace your skills, it's technology created to provide you with more actionable data than ever imaginable in the form of powerful tools to *increase* your skills. While AI's abilities are human, its capabilities are far superior.

Artificial intelligence, whether fictional or real, has always been polarizing. Those siding with critics who warn against machines that will ultimately replace humans may feel safe from their standpoint on shore. But as they enjoy the benefits of AI embedded in their favorite apps and websites, the companies developing that technology are exploring the deep waters of deep learning and making waves, unseen by those still watching from a distance. With more and more publishers taking notice, AI's future impact isn't as distant as some may think. With our help, you won't be caught swimming in the shallows.

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WHO'S USING WHAT

CHATBOTS

More and more companies are turning to chatbots as a smarter and cheaper way of keeping customers engaged as they browse online catalogues. Backed by machine learning, the program uses an intuitive question-and-answer interface to provide customers with a personalized shopping experience comparable to being in a physical store. Chatbots can also be programmed with answers to frequently asked questions and the ability to offer customers product recommendations based on their responses.

As a publisher, this means increasing discoverability by helping readers navigate your library free from clumsy search functions and filters, ultimately recommending the best books for each individual reader. With machine learning, backlists become a goldmine for potential sales based on current market trends. Though the software behind services like Authorbot isn't as intelligent as Apple's Siri, its potential as a powerful tool for audience engagement is promising.

PATTERN RECOGNITION

No longer a secret known only to marketing teams at top companies, the use of AI in audience analyses and engagement is making an impact in the publishing world. Data about customers and products in the marketplace help publishers decipher key information about their readers. Knowing how, why, and when customers buy books and whether or not they finish reading them can benefit all in-house departments, helping them make well-informed decisions on which titles to publish, where to sell them, and how to best market them.

But the amount of granular data publishers now have access to is vast, far more than humans can process efficiently. Machine learning, in contrast, can perform such a task with ease. With such powerful technology, raw information becomes an audience-of-one marketing opportunity. When applying the unsupervised learning technique of clustering data, publishers can discover both connections between and groupings of customers based solely on their behavior as opposed to traditional segments like location, gender, and age.

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CONTENT ANALYSIS

Though its potential benefits are undisputedly desirable, artificial intelligence in publishing isn't just about audience engagement. Clever implementation of existing AI can help publishers optimize, monetize, and even create new content. Initially established as a search-engine giant, Google's popularity continues to rise through their suite of cloud services on the Drive, such as Google Docs, Sheets, and Photos. Google Cloud, however, also offers other services that hint at AI revolutionizing the literary world as we know it.

APIs like Cloud Vision are able to analyze images and detect what they're about. Accompanying a list of keywords associated with the image is a list of websites featuring the image. Even colors are broken down and ranked according to prominence. While the quality of this service still varies greatly image by image, its ability to provide a publishing house with detailed data on every book cover in their catalogue is potential monetization in waiting. This technology, when developed according to a publisher's specific needs, will create a plethora of potential services with a direct and immediate impact on important aspects such as discoverability and audience targeting, providing unimaginable accuracy when it comes to delivering the right content at the right time and to the right readers.

When it comes to analyzing texts, natural language processing extracts important information about people, places, and events, revealing both structure and meaning. The results are words colored according to category, including cross-references the AI was able to pick up on. While NLP is also able to analyze a text for sentiment, it still fails to read a book the way humans do. Hopefully in the near future we'll see NLP become an in-house BISAC code generator. Until then, use it for content categorization.

CONTENT CREATION

The biggest revolution lurking in the deep waters of deep learning is unique content creation. Though creatives fear the day robots will write their works for them, media companies are welcoming the technological advancements with open arms. Still in its early stages, AI is already enabling journalists to compose reports using pre-written phrases according to data dependent on different possible outcomes.

As technology develops and such processes become a reality, AI will only ever be as good as the data we feed it or train it to feed itself, leaving us with a task of creating the very data and information machines can neither generate nor understand: emotional bonds. Key to being truly successful as AI continues to impact the publishing industry is connecting in a way computers can't, and this can only be done by leveraging AI's power and implementing intelligent tools to bring you closer to your audience.

WHERE TO BEGIN

Impressive as these services may seem, they're only floating on the surface of AI's deep waters. Though new developments are being seen with increasing frequency, there are actionable steps you can take right now to get you moving in the right direction, ahead of your competition, and in position to ride the next wave of new technology. Gould Finch and Frankfurt Book Fair are jointly leading an in-depth study on the use of AI and its current impact on the publishing industry, the results of which are being compiled into a detailed white paper filled with first hand insight on AI's future impact and its implications, as well as a set of suggestions and rules to guide you as you navigate through your journey.

As data continues to grow, so does our need to analyze it at an ever increasing speed, making astute awareness of your company's capabilities, market position, and readiness to incorporate AI processes crucial to success-ful implementation of AI tools. These tools, however, shouldn't be used blindly. We've created **this survey** to assess your potential use of AI and clarify the primary purpose of your data, providing us with outcomes we can then use to help you. By participating in our survey, you not only contribute to our research, but also will be among the first in the publishing industry to receive our white paper, your primary guide to navigating the deep waters of deep learning. **Click here** to dive in; we'll keep you afloat.

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