How Contextual Data Is Revolutionizing Advertising

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Advertising has come a long way in the last few decades. With the rise of digital marketing, advertisers have access to more data about consumers and businesses than ever. This data feeds into vast new compute power resulting in increasingly effective ways for advertisers to convey messaging.

Enter the next generation of AdTech. This new wave of technology combines AI and contextual data to curate ads tailored to consumers at the individual level. By analyzing data about a person's interests, preferences and behaviors, advertisers can deliver content to the target audience that resonates in very specific moments of time.

The key to this new approach is contextual data. Rather than simply looking at a person's demographic information or search history, advertisers are now looking at a person's context — where they are, what they're doing and what they're interested in, measured in real-time along thousands of data points. By understanding a person's context and automating custom content creation in seconds, advertisers can deliver ads to millions of consumers simultaneously that are highly relevant.

By using machine learning algorithms, AI can analyze vast amounts of data to identify patterns and insights that are impossible to monitor and act on manually.

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Here's how each of these technologies plays a role in

generating highly personalized content for each individual:

- **Machine learning:** Machine learning algorithms enable AdTech companies to analyze vast amounts of data about each user, including their browsing history, search queries, social media activity, and other interactions. These algorithms use this data to identify patterns and make predictions about what content is most likely relevant and engaging to each user.
- **Predictive analytics:** Predictive analytics is the use of statistical algorithms and machine learning techniques to analyze data and make predictions about future events or behaviors. In AdTech, predictive analytics is used to anticipate user needs and preferences before they even express them. By analyzing patterns in user behavior and other data points, AI algorithms can make highly accurate predictions about what content will be most engaging and relevant to each user.
- **Natural Language Processing (NLP)**: NLP is a branch of AI that enables computers to understand, interpret and generate content in the human voice. By using NLP, AdTech companies can analyze and generate highly curated content tailored to individual users' interests and needs. This technology enables computers to understand the nuances of human language, including context, intent, and sentiment, which is essential for generating highly personalized and relevant content.

Imagine a world where you are walking down the street and receive a notification on your phone for a nearby coffee shop you haven't tried before. The notification is personalized to your interests and preferences since it is historically the type of coffee you like, at the prices you usually pay, set in an ambiance you tend to enjoy for a coffee shop, at the time of day you typically drink coffee when out and about. The notification also includes a discount for a beverage you have purchased in the past. This is an example of AI and contextual

data working together to deliver a highly targeted and personalized ad.

But this approach is not without its challenges. There are obvious concerns about privacy and the ethical implications of using personal data to target consumers.

Although policymakers have taken an active stance on regulating the industry by way of the General Data Protection Regulation (GDPR) in the European Union and the California Consumer Privacy Act (CCPA) in the United States, keeping bylaws current in this rapidly evolving ecosystem poses a challenge to say the least. In the near term, transparency will ultimately dictate efficacy for both advertisers and end consumers as we get closer to a convergence point in value-driven and derived.

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Despite these challenges, the benefits of this approach to engagement are significant. Solving for relevancy and timing creates a win-win for all stakeholders across all verticals in consumer and business.

Every second passed represents millions of data recorded – especially in advertising. This correlates directly to the models and algorithms getting better in a positive feedback loop leading to the overall ideal of personalized advertising growing – with now just being the start of what can only be related to an exponential "J-curve" growth story for the industry and underlying technology.

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