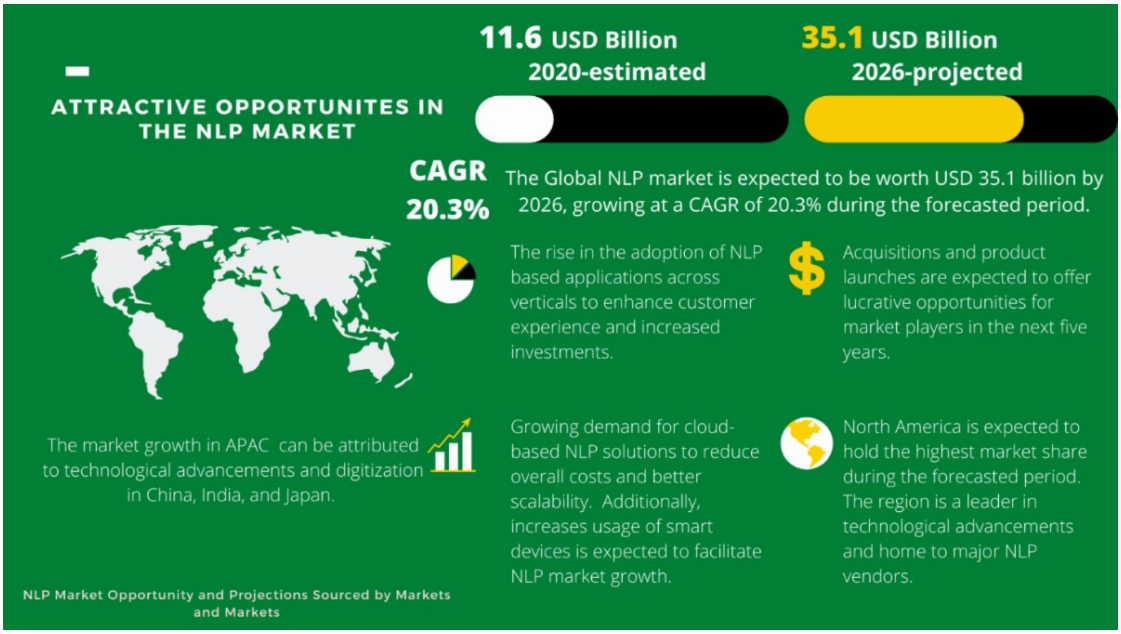
MORGAN CREEK
DIGITAL
ALTERNATIVE THINKING ABOUT INVESTMENTS

Welcome to Morgan Creek Digital's weekly digital asset update. It is comprised of a thought piece from our team followed by a summary of what we consider the most compelling digital asset news during the last week. We hope you find this content interesting. Please let us know if you have any comments or questions or if you would like to speak to a member of the Morgan Creek Digital team.

Why Investors Should Care About AI —Understand the Tech to Understand the Opportunity

Last week we provided an overview of AI, and in this week's edition, we will narrow our focus to Natural Language Processing (NLP) and text analytics. Due to the AI digital transformation and infrastructure breakthrough, enterprises regularly introduce language processing technologies ranging from text analytics solutions to speech recognition and everything in between. Why should investors care? We believe the answer is market size. Yahoo Finance estimates that the global NLP market size will grow from $11.6 billion to $35.1 billion by 2026, at a compounded annual growth rate (CAGR) of 20.3%.[1] Consistent with this growth, we believe that significant business value is derived from parsing, accurately contextualizing, classifying, and extracting text with NLP as it complements many daily operational activities.

NLP Market Opportunity and Projections Sourced by Markets and Markets



Let us take a more granular look at the technical applications:

- **Parsing** is similar to the action of reading - analyzing a string of text into logical syntactic components. Tagging and tokenization are components of parsing.
- **Entity extraction:** The process of recognizing entities such as business

structures, names, and products, as well as extracting them for analysis, which may include transferring them between documents or databases.

- **Classification:** Text classification, or text tagging, is the process of categorizing text into organized groups, such as those relevant to specific regulations.
- **Contextual understanding** involves dissecting sentences to extract noun phrases, themes, and facets present within the context, allowing for a deeper understanding of the nuances of a word's meaning based on its usage. For example, it distinguishes the difference between the battery in an assault and the battery power source.
- **Pragmatic understanding:** This form of learning extends beyond semantic and contextual knowledge to a pragmatic comprehension of more complex consequences, implications, and precisions of language, which is reinforced by a reliable knowledgebase system. Pragmatic understanding generates human-like thought and provides meaning to unstructured data.

Traditionally, there are two approaches to NLP, 1) a rules-based and statistical method, which appropriately embodies the duality of AI and expert systems, and 2) machine learning. The prospects of both text analytics and NLP will be tied to incorporating both approaches in a complementary manner.

Rule-Based Training

Whether implementing classic rules-based text analytics or leveraging machine learning strategies, users need first to train the systems concerning the respective business. One approach correlates comprehensive classifications of words, synonyms, and significance, typically associated with rules-based models. This approach is domain-specific and requires a pragmatic understanding of language.

Statistical Training

Modern NLP is trending toward machine learning models or training text analytics domains. With this approach, organizations can train machines through examples and experience rather than rigid rules. Deep learning has transformed how NLP operates, as operators can provide machines with ample examples of textual variation. Therefore, the machine has a more robust understanding of the problem and is less susceptible to errors because of variations. With machine learning, enterprises can avoid the inordinate time needed to build taxonomies and rules.

Takeaway

The most common use cases for NLP integrations are related to translating unstructured text data, which firms are commonly inundated with, to structured data.[2] Forbes estimates that 80% of enterprise data is unstructured.[3] Text analytics and NLP are inextricably linked as NLP supports IT systems in analyzing the human language and deriving value from unstructured data. Text analytics is a subcategory of NLP and has a wide array of applications. For example, text analytics support speech recognition systems for customer support chatbots, recommendations for users, and the organization of large amounts of data for analysis. NLP serves as the crucial interpreter that translates unstructured data to structured data that machines can comprehend and enterprises can incorporate into an actionable strategy. According to Gartner, 80% of enterprises will eliminate their traditional data centers by 2025, which we suspect could work in favor of non-traditional systems like NLP.[2]

THE RUNDOWN

Bitcoin ATMs to Invade Circle K Convenience Stores: Bitcoin Depot is making a play for brick-and-mortar foot traffic through a "long-term" crypto ATM partnership with the Circle K convenience store chain. The crypto ATM company plans to install kiosks at "thousands" of Circle K locations with over 700 already live in 30 states. CEO Brandon Mintz is aiming for 6,000 kiosks across North America before 2021 is done. Read more.

Jack Dorsey says bitcoin will be a big part of Twitter's future: Twitter CEO Jack Dorsey confirmed to investors that bitcoin will be a "big part" of the company's future, as he sees opportunities to integrate the cryptocurrency into existing Twitter products and services, including commerce, subscriptions and other new additions like the Twitter Tip Jar and Super Follows. Read more.

Elon Musk's Tesla Holds Its $1.3B Bitcoin Position in Q2: Despite its recent concerns about bitcoin's environmental impact, Tesla hasn't sold any more bitcoin. Elon Musk's electric vehicle company reported no new sales or purchases of digital assets, according to its Q2 earnings presentation. The company holds $1.3 billion in bitcoin. Read more.

Goldman Sachs Applies for DeFi ETF: Investment banking giant Goldman Sachs has filed an application with the U.S. Securities and Exchange Commission (SEC) for an exchange-traded fund that would offer exposure to public companies in decentralized finance and blockchain around the globe. Sparse on details, the filing noted that the fund would invest at least 80% of its assets into companies that advance blockchain technology and the digitization of finance. Read more.

New Infrastructure Bill Looks to Raise $30B Through Crypto Taxes:
A bipartisan infrastructure bill in Congress proposes to raise $28 billion from crypto investors by applying new information reporting requirements to exchanges and other parties. According to a draft copy of the bill shared with CoinDesk, any broker that transfers any digital assets would need to file a return under a modified information reporting regime. The draft defined digital assets as "any digital representation of value…recorded on a cryptographically secured distributed ledger" or related technology. It also includes decentralized exchanges and peer-to-peer marketplaces in its definition of brokers. Read more.

The Owner of This Tiny $875 Rig Mines Bitcoin Using Free Electricity at Starbucks: Idan Abada is on a mission to democratize bitcoin mining. As far as he's concerned, minting new coin isn't just for the pros. His message appears to be resonating with the masses. Abada, who lives in the San Fernando Valley in Los Angeles, posted a video of himself using free Starbucks electricity to run an $875 mini bitcoin mining rig. The post has since gone viral on TikTok, with 2.6 million views and counting. Read more.

[1] Yahoo! (2021, February 24). *The global natural language processing (NLP) market size to grow from USD 11.6 billion in 2020 to Usd 35.1 billion BY 2026, at a compound annual growth rate (CAGR) of 20.3%.* Yahoo! Finance. https://finance.yahoo.com/news/global-natural-language-processing-nlp

[2] Moore, S. (2019, August 5). *The data center is (Almost) dead* Smarter With Gartner. https://www.gartner.com/smarterwithgartner/the-data-center-is-almost-dead/.

[3] Rizkallah, J. (2017, October 12). *Council post: The Big (UNSTRUCTURED) data problem* Forbes. https://www.forbes.com/sites/forbestechcouncil/2017/06/05/the-big-unstructured-data-problem/?sh=7d2ffdb2493a.

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