GEODE AI™

GEODE|AI™: A PLACE WHERE INSIGHT MEETS FORESIGHT

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In many ways, today's world differs drastically from the world a decade ago. Among other things, advancements in technology have led to a key trend: the abundance of data. Domo, a cloud-based operating system company, estimates that **90 percent of the data in the world was generated in just the past two years!** This nearly unfathomable amount of data creates challenges related to data storage and analysis. At the same time, this enormous amount of available information gives **decision makers more opportunity than ever to learn more about their customers and more avenues of exploration to reveal new and superior insights**.

What if we could predict an increase in demand that would require additional staffing and production? What if we knew which customers were going to leave us for a competitor before they did? What if we could offer customers promotions or advertising "in the moment" to increase their likelihood to purchase? These are the types of questions that we at **Burke have been thinking about for the past 2+ years** and that ultimately led to the **development and creation of GeodelAI™**.

CHANGING THE PERSPECTIVE FROM HINDSIGHT TO FORESIGHT

GeodelAI™ is a system designed to integrate disparate data sources that power advanced data science models used to detect insight and provide foresight. A forward-thinking mindset highlights a core component of the GeodelAI™ system – the ability make predictions. Most traditional research focuses on point-in-time analysis that is backward-looking – for example, this is how much my customers liked my product last month and this is how it was different from two months ago. A prospective mindset increases the power to shape our future and invoke change.

Suppose we work for a wireless carrier and want to capitalize on the interactions we have with our customers. Some goals could be related to broadening the range of services a customer buys, while others could be defensive, like taking proactive steps to retain customers in light of competitive discounting from new market entrants. Combining data from our customer satisfaction survey with other available data sources could help us improve and personalize the customer experience.

To do this, we could marry the data from our survey to online customer reviews and customer service conversations we have had to better understand and prioritize opportunities to alleviate pain points. These learnings could be deployed in the form of a real-time assessment of customer service conversations to estimate the likelihood that a customer would defect, or leave us for another carrier. To take it a step further, we could link these findings to customer and cellular data usage details – calls, text messages, streaming music + video, time, buyer location, and demographic profile – and to a closed-loop survey that helps us identify the best remedy for particular frustrations that customers encounter. The holistic picture of a customer can help tell us how likely he/she is to switch to a different provider, resulting in a more strategic and targeted approach to customer interactions.

Burke SINCE 1931

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Maybe a solution is as simple as offering a small discount on their next month bill? Other times, we may need to offer a free upgrade or promotion. At any rate, this could give us a resource to identify when customers were upset and how to best address their issue during the conversation.

These types of insights and learnings empower marketing groups to allocate targeting or alternatively, retention efforts within their marketing budget efficiently. And importantly, they would help us take action in the moment, during an interaction with a customer.

NEW PERSPECTIVES ARE POWERED BY MULTIPLE SOURCES

Multiple data sources that house different information on markets and customers have great utility when it comes to generating prospective insights. Synthesizing multiple data streams supports a more holistic understanding of consumers. However, linking data sources and pre-processing steps have traditionally been a headache. Those who have gone through the process of linking or merging datasets have probably asked themselves, "Wouldn't it be great if…?" Central in the design of GeodelAI is data fusion and triangulation, facilitating an environment in which pattern recognition and knowledge discovery are possible. Mitigating these headaches maximizes the time spent on hypotheses, analyses, and insight generation – an analyst's dream.

GeodelAI has efficiencies in place to help clean, transform, blend, and prepare data for analysis. With respect to multiple data sources, the following are examples of the types of data streams available to support prospective insights generation.

01 **SURVEY DATA** – Key attitudes, behaviors, and feelings of different groups of people; often, this data provides the "why" behind consumer behavior

02 **THIRD-PARTY DATA** – Behavioral and demographic information inferred and collected by a company that doesn't have a direct relationship with consumers (i.e., Experian Marketing Services)

03 **OPERATIONAL DATA** – Data that describes key business events or transactions of a company

04 **SALES AND REVENUE DATA** – Data that describes a company or product financials

05 **SOCIAL MEDIA DATA/CUSTOMER REVIEWS** – Unstructured comments or thoughts about industries, companies, products, content, etc.

FIT FIRST, NOT TOOL FIRST

The Geode|AI system supports advanced statistical techniques and machine learning algorithms that can be used to assess, analyze, and understand synthesized data. While Burke's analytical toolkit has expanded, our approach to analysis and problem solving remains "fit first," not "tool first." Staying true to our 90 years of excellence in research quality, we align questions and problems with the right answers and solutions.

The available machine learning and data mining approaches within Geode|AI can address several contemporary needs of an organization, including: Analyzing unstructured data, parsing large quantities of data, and increasing analytical options to apply. At times, a criticism of machine learning algorithms is that they are an uninterpretable 'black-box.' With Geode|AI, we have made an effort to facilitate interpretation of results from complex models. This provides context around predictions made and can be very valuable when transitioning model results/predictions into a consumable report or summary.

With that being said, traditional statistical tools work very well in many situations and their models are easily interpretable. Including both classical statistical techniques and more recent machine learning algorithms within Geode|AI provides the ability to test and compare multiple approaches simultaneously before choosing a "best" option.

GEODE|AI: PAVING A NEW PATH FORWARD

Geode|AI helps keep the present in perspective while putting the future in sight. Burke's mission statement is as follows: "To provide superior decision support services that enable our clients to succeed." Geode|AI equips Burke Data Scientists with an advanced toolkit to help our clients overcome obstacles and solve problems. The ability to integrate multiple data sources and access a broad library of statistical and machine learning algorithms allows us to showcase data and information in a new light and provide foresight. Coupling the advanced insight extraction methods from Geode|AI with our rich research history, there is no limit to what we will discover together about the future.
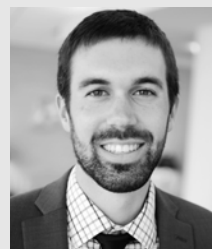
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Trent's passion is to solve problems and uncover actionable insights by leveraging his expansive analytical skillset, which includes techniques such as statistical modeling, data mining and machine learning.

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