

WHITE PAPER:

Implementing
ARTIFICIAL INTELLIGENCE
to Attack SEO.



market**brew**

SEO Software, by Search Engineers.

Are You using The Right Data?

The biggest game in town is understanding how Google's algorithms work.

In the context of Search Engine Optimization, one of the more powerful subsets of Artificial Intelligence (AI) being used these days in SEO is machine learning, which deals specifically with the training of algorithms, or understanding how and why algorithms work.

But machine learning is only as good as the data it is operating on. Part of what makes a great use case for machine learning is having large amounts of very precise data. Without this precision however, model guidance gets murky, and often leads to erroneous (and costly) conclusions.

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"Deep learning" has become a hot topic in the general rush to launch AI products. But many of these products will fail because companies are putting branding ahead of functionality. Success depends on understanding what deep learning is, how it works, and what its most effective applications are.

Dr. Sid J. Reddy, Chief Scientist @ Conversica



In the Search Engine Optimization world, we can't just take Google ranking data, which is effectively the output of a black box, feed it into some sort of machine learning, and automatically get positive results.

As a due diligence leader in Search Engine Optimization, ask yourself:

What is the source of data for the tools + platforms that my team is using?

A good analogy would compare Google's Search Engine to the atom.

Around 1803, a British chemist named John Dalton suggested that all matter is made of atoms, and that atoms, being the smallest bits of matter, cannot consist of smaller particles. The Search Engine Optimization industry, for the most part, is treating Google like Dalton treated the atom.

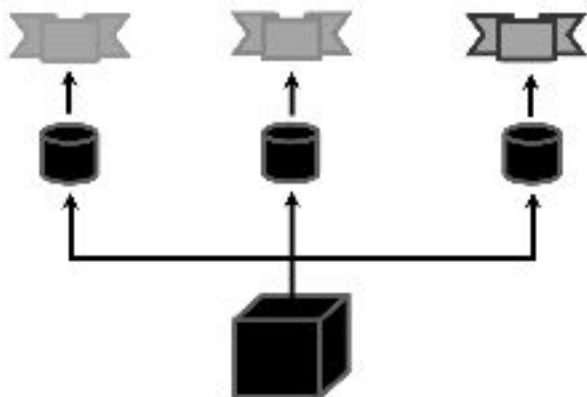


FIG. 1. Is my tool platform trying to mask the precision of source data?

CMOs and SEO managers, not AI experts themselves, have merrily signed up for the marketing nonsense that requires you to believe that by starting with Google ranking data, you somehow are able to decipher what Google's ranking data is going to do next.

British physicist JJ Thomson and New Zealand physicist Ernest Rutherford knew better, and you

should too. Thomson discovered electrons in 1897, realising that they must be parts of atoms. And Rutherford realized that atoms consist of a positively charged nucleus plus a number of negatively charged electrons orbiting the nucleus (we now know that the nucleus itself consists of subatomic particles known as protons and neutrons – which in turn consist of even smaller particles known as quarks). It turns out, Google's search engine is as complex as the atom.

The dataset your team is working MUST be more granular than the atom. It must be at the electron or quark level. In order to do this, you must have tools or models that deconstruct the Search Engine itself, allowing it to be represented by more precise components. Once this is in place, you have options.

Is My Team Churning?

Your SEO Team shares many of their challenges with a stock trader.

They have likely invested their individual and collective careers researching how to qualify every technical issue that Google cares about.

But there are literally millions of combinations of potential optimizations your team can make in any given situation. Unfortunately, most of these combinations will lose, either by accidentally lowering your ranking and traffic due to a misunderstanding of Google's algorithms or the competitive environment, or far more likely, by simply churning your brand's precious time and money resources away.

The churning is the most insidious of them all, and is far more common in this particular sector of Digital Marketing. In SEO, this is primarily due to a misunderstanding of statistics.

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False facts are highly injurious to the progress of science, for they often long endure.

Charles Darwin

The easiest falsehood is assuming that every position is equidistant.

When SEO software vendors use fancy algorithms to produce a to-do list of work items for your team, they are assuming that each ranking position is spaced equally apart. Statistics are supposed to make something easier to understand, but when used in a misleading fashion they can trick the casual observer into believing something other than what the data shows.

In the case of Google's ranking data, the misuse may be accidental. In the case of most SEO platforms claiming statistical precision, it is purposeful and for the gain of the perpetrator. When the statistical reason involved is false or misapplied, this constitutes a statistical fallacy.

This false statistics trap can be quite damaging for you and your team, causing your team to follow a prescribed to-do list of optimizations or



changes to your Digital Marketing strategy that can have a ripple effect throughout your organization.

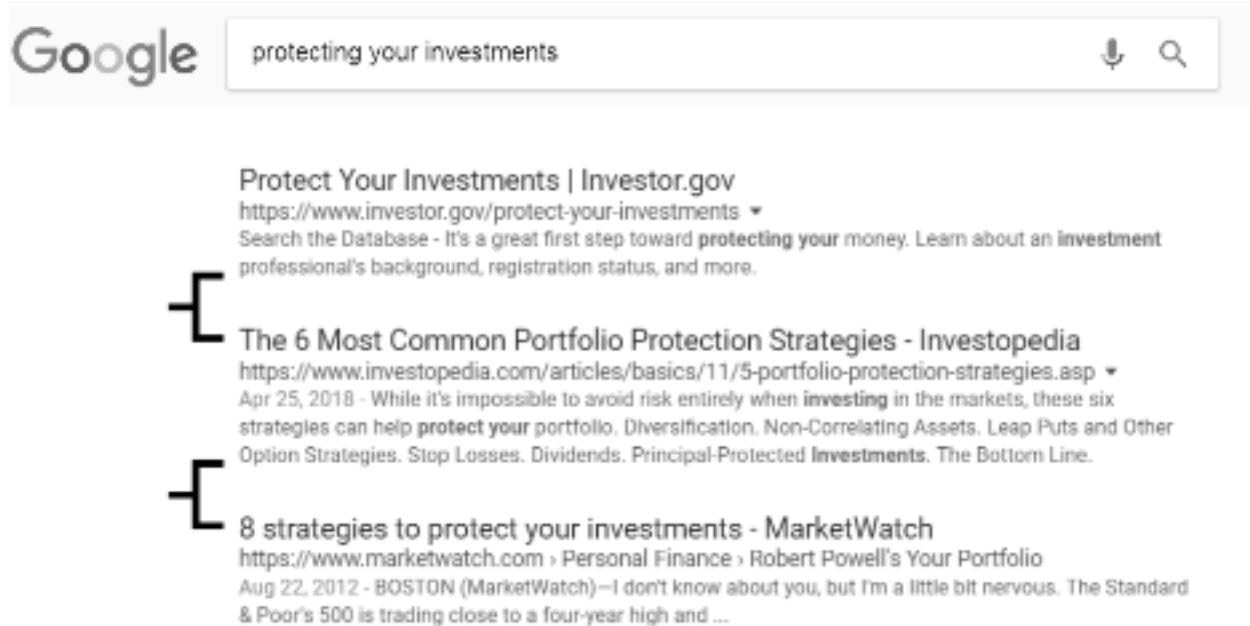


FIG. 2. Rankings are NOT equidistant

In addition to the equal ranking distance fallacy, there is another big statistical fallacy brands have gullibly fallen into, this one primarily due to software vendors. Throughout the last two decades, SEO software platforms have been playing an escalating game of “how much info can we deliver”.

The bigger and more detailed to-do list a vendor can provide, the more likely they will get that brand to sign up and stay. Remember, each individual on your team has spent their entire career competing against

other individuals over how many SEO items they can identify (and fix). This has played directly into the software vendors' hands.

The more items on the to-do list, the more seductive it becomes.

And this makes you incredibly susceptible to churn.

As a leader, you must consider bigger things like resource management. There is no such thing as unlimited time, but your SEO team is not concerned with making the right combination of optimizations.

They are only concerned with making as many optimizations as possible.

Given that the cycle between website changes, deployment, and Google's ranking feedback is not instantaneous, and time is a limiting factor, your team must make the correct combination of optimizations – or you will lose.

Your team should be focused on making the right types of optimizations, not on making the most number of optimizations. Less is more here, and wiping away the statistical ignorance is a must.

How Does Your Platform Prioritize Optimizations?

Focus on the ordering methodology of your to-do lists.

If you have addressed your data and have instituted a more statistical approach, you will start to focus on the methodology of your tools, rather than the mere output of those tools.

The first thing your analysis tools should be doing is understanding the potential upward movement in ranking, based on the competitive context that your current situation dictates.

For example, if your tools are precise enough to statistically quantify how much difference in ranking position there is between your landing page and the landing page immediately above that one, then an automated process of ordering the “biggest payoff” optimizations can be done.

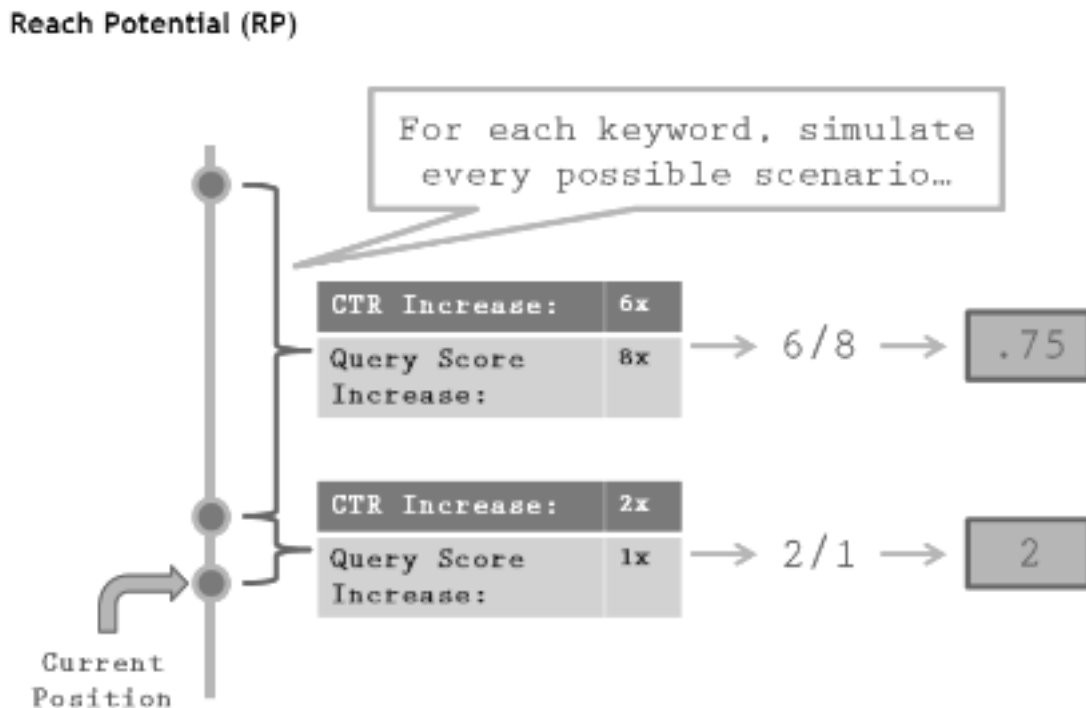


FIG. 3. Analysis Tools should prioritize to-do items, based on both potential upwards movement AND how much time and resources must be spent to accomplish that optimization.

But this is only half the equation. A further requirement of all analysis tools should be a quantifying metric on “how hard” each optimization is to complete. From a manager’s perspective, you want to know how much time and money it will take to implement each optimization.

If it takes too long or costs too much, the payoff might not be worth it, with respect to other optimizations available. Remember, churn is the enemy here – we don’t want to cause our team to get into the mindset of “fixing everything”. That’s where we lose.

Finally, more advanced tools will take it a step further, and calculate the global maxima solution for any given situation. This accounts for potential accidental negative movement when only focusing on one part of your site. “Fix one thing, break another” is another form of churn, and can easily become a nightmare scenario for a team of any experience level.

An analysis tool that will account for a solution that works for the entire set of optimizations ensures no adverse effect on the rest of your revenue streams.

Final Thoughts

As a leader of your organization, you don’t need to have a PhD in machine learning to guide your team through the growing complexity of search engine optimization. However, you do need to ensure that your team is armed with the right technology that will keep them focused on the most important tasks at hand.

And that means working with the right data, understanding that if your provider sources its data from Google's rankings, your team must not succumb to statistical fallacy and assign strategy based on a mirage of precision.

Why Market Brew?

Market Brew was started by search engineers in Palo Alto, as a unique alternative to the growing number of enterprise SEO tools and platforms pretending to provide insight into Google by simply regurgitating already public ranking data.

With Market Brew, there is NO black box – Market Brew is a “generic” search engine that calibrates (transforms) itself into whatever search engine environment the user wants. This unique process uses artificial intelligence to machine learn the behavior and characteristics of the target search engine, and adjust thousands of algorithmic weightings within its Search Engine Model. Once calibrated, users can explore the search engine model – almost like having their very own Google Simulator.

Market Brew's patented Search Engine Model allows teams to precisely identify each type of issue within their site, and automatically prioritize those items by comparing millions of keyword and competitive environments to determine which opportunities provide the biggest upward movement for the least amount of optimization. And it does this every time a change is made to your (or your competitor's) site.

Companies use Market Brew for these unique capabilities:

➤ *Completely Transparent*

Like having your own Google Sandbox

➤ *Automatic Discovery*

Enables rapid response times

➤ *Small + Quick Iterations*

Rapid / Agile testing

How Do We Help Brands Do This?

Market Brew's software comes with world-class support. Each client is paired with a Solutions Engineer who acts as trainer and mentor, and provides solutions support for the life of the contract.

Sign up for a demo at marketbrew.ai, to see why Market Brew is the trusted partner of CMOs and Data Scientists for top Global Brands.