**EDUCATIONAL SPEECH**

**FOR**

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**“The Pioneering role of AI to Predict Market Cap in Profitable Trading Systems.”**

Hello everyone! I want to take this opportunity to thank you for giving me your time and attention to share information, news, and maybe some good “inside jokes” about a subject that we, as professionals, find fascinating, challenging, and promising. Let’s work together to find the roots of this quest and to define and distinguish the road maps that will lead us to greater understanding of the benefits of using these modern applications in the financial world. **But first.**.. I would like to acknowledge some people who were instrumental in making this session possible. (**Name the person or people who invited you to speak**)... of course given prevailing algorithms and predictive intelligence, you probably already **KNOW** who you are.... (**Wait for the laugh**) but even so, as long as we humans still have the opportunity to deliver a sincere message... in person... I would like to thank \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, for their curiosity, open-mindedness, and hospitality.

The abstract we are identifying and addressing is as follows: Artificial Intelligence (AI) is a powerful cutting edge technique from world-class data science which is playing an essential role in all aspects of business. Currently, computer scientists and tech professionals are focusing on Artificial Intelligence and its applications in pioneering efficiencies... saving time, money and needless errors and inaccuracies by automating routine processes and tasks. For example, different organizations and people have adopted AI technology to increase productivity and operational procedures to make significant and efficient business decisions based on output from cognitive technologies. AI helps to avoid mistakes and 'human error' which improves the performance in current business. AI is changing our lives in different ways each year as the sector and its experts gain knowledge and improve advances in the use of these technologies. For example, those in the enterprise sector are using AI to analyze and forecast predictive outcomes for varied business. We want to look at some of the roles these innovations are playing in the workplace, from the entryway to your workstation cubicle in the back of the office, and especially in the banking sector. This intellectual discussion will provide a lens through which each of you may gain greater insight and comprehension, and will attempt to clarify how market capitalization is influenced by the power of social media, among other “conductors,” in financial industries using artificial intelligence.

There is an expression that teaches us, “There is nothing new under the sun.” It’s true that every element, every advance in science, business, technology, health, medicine... you name it, is predicated on previous innovations. Rarely does something “drop from out of the blue” with no reference point of origin. And in many ways, Artificial intelligence has been built on the backs of its forebears. Let’s face it... Google began providing information to savvy computer users twenty years ago and while most of us grew up with encyclopedias for reference, and thanks to that innovation, words like “Britannica,” “World Book,” and “Funk and Wagnall” have virtually vanished from our lexicon. Instead, we got to know Google... which sounded like a pretty silly name at the time, and more recently Siri, Alexa, Echo, and all of their “kissing cousins.” Who remembers in the nascent days of Google, they made sure we knew how long the search took, how many hits we had to choose from, and if we wanted, and were feeling “lucky,” we could access other repossess to our queries? We’ve come to trust Google, Bing, and other search engines more readily than we trust our own mothers... of course, Ask Mr. Jeeves didn’t quite make it... (**Wait for the laugh**) but be warned... these omnipresent, indispensable time savers are not always right... I have a friend that has placed a moratorium on Siri... **Why**??? Because Siri **INSISTS** on pronouncing her name incorrectly... we need to ask ourselves... is Siri a **SADIST**? (**Wait for the laugh**) Does she have a questionable sense of humor? Or was she just poorly programmed... and if it’s the latter, that’s a cautionary tale for all of **US**. ... and by the way, Siri **DOES** have a questionable sense of humor... and **REALLY**... that **HAS** to be addressed!!! Siri gives new poignancy to the term,”Dad Joke” with real grabbers like, “The bartender said, ‘We don’t serve time travelers in here.’ A time traveler walks into a bar...” (**Wait for the laugh**). I promise you that my next exploratory project will involve more effective uses of **ACTUAL** humor in AI applications!! (**Wait for the laugh**).

Questions abound as to about whether or not the current battalion of consumer AI Representatives, namely Siri and her cousins, Alexa, Echo, and the rest, are “smarter than a six year old,” ... some are not quite sure... we who are at the forefront of honing the capabilities of machine intelligence for the enterprise sector, are more optimistic. The industry has come a long way since those earlier days of Google, and even before that, and thanks to the proliferation of technology, and infiltration of it in our everyday lives, advancements and technologies are being developed and implemented at increasingly greater speed. Thanks to the ubiquitous nature of current information sharing, more and more data is available for us to play with. In his video entitled, “Stock Price Prediction/AI in Finance,” Siraj Rafal reminds us that **NINETY PERCENT** of the world’s data has been collected in the **PAST TWO YEARS**. That’s **STAGGERING** when you think of it. Can you just **IMAGINE** how many more resources we will have as the knowledge base continues to grow **geometrically**?? He also brings up the following points:

* Reducing cost is not about labor arbitrage and offshore hiring. It’s about using automation, Artificial intelligence, and machine learning.
* Resource intensive, repetitive tasks like data entry processing are well suited to AI
* Large companies as well as startups all need to take a serious look at how Artificial Intelligence serves them for the health of all aspects of their corporate entities.

So we’ve touched on the basic introduction of AI. It’s a popular concept featured in fiction films such as “The Terminator” and “AI: Artificial Intelligence”, and we know that the idea of artificial intelligence is inching closer to a reality that is already being integrated into our daily lives through the use of technologies like virtual assistants (Siri, for example), smart cars and homes, and automated customer service. Companies and individuals are racing to keep ahead of a world in which predictive algorithms and neural networks are becoming the future of technology, and these ideas are advancing at accelerated rates. So how can you be sure that your company stays at the forefront of artificial intelligence technology? One way is by bringing in an artificial intelligence expert, futurist, or technologist to your next conference or event.... I’m here to guide you and introduce you into that process.

Oh. I just thought of something...speaking of mining the technology and best practices to more accurately predict financial trends, let me see by a show of hands... knowing that the most recent Power Ball was over **ONE HUNDRED AND FIFTY SIX BILLION DOLLARS**, how many of you played? How many of you used algorithmic logic? ... and how much did you win??? (**Look around the room, nod, and say**) **Umhmmmmmm** ... we’ve got **WORK** to do!!! (**And wait for the laugh**).

The first step is to review and clarify the keywords used frequently in this technology... and although I am sure most or all of you have a great understanding of the lexicon required for this field of knowledge, it never hurts to expound:

1. **Artificial Intelligence**... Merriam Webster provides this definition: A branch of computer science dealing with the simulation of intelligent behavior in computers. The capability of a machine to imitate intelligent human behavior.

2. **Data Science.**.. According to Wikipedia, this is an interdisciplinary field that uses scientific methods, processes, algorithms, and systems to extract knowledge and insights from data in various forms, both structured and unstructured, similar to data mining.”

3. **Machine learning**... Wikipedia also tells us that this is a “field of artificial intelligence that uses statistical techniques to give computer systems the ability to ‘learn’ from data without being explicitly programmed. The term, ‘Machine Learning’ was coined in 1959 by Arthur Samuel.” It has been around a while!!

4. **Deep learning**... is described by Investopedia as “a subset of machine learning in Artificial intelligence that has networks capable of learning unsupervised from data that is unstructured or unlabeled.... also known as ‘Deep Neural Learning’ or ‘Deep Neural Network.’”

5. **TensorFlow** is described as “an open-source software library for dataflow programming across a range of tasks. It is a symbolic math library and is also used for machine learning applications such as neural networks. It was developed by the Google BrainTeam for internal Google use.”

6. **Keras**... Wikipedia is **ON THEIR GAME** when it comes to explanations and definitions! (**Wait for the laugh**). They describe Keras as “an open source neural network library written in Python. It is capable of running on top of TensorFlow, Microsoft Cognitive Toolkit, or Theano. Designed to enable fast experimentation with deep neural networks, it focuses on being user-friendly, modular, and extensible.”

7. **Social Media**... in the simplest of terms, I consider social media the “playground,” and depending on if you prefer the sandbox, the monkey bars, or any other of the seemingly infinite activities or “platforms” provided for socialization, interaction, and play, social media, in a more macro sense, is really not that much different. Instead of the slide, we have Facebook... instead of the seesaw, we have Twitter.... in place of the barrels, you can say we have Instagram... or Reddit, or Vero, Snapchat, LinkedIn, or any of myriad networks and applications. While many may think they just “come to play,” more and more, social media is proving its mettle as a viable, valuable source for information sharing and the financial sector is clearly a full blown “**growth opportunity**.”

8. **Twitter**... is one of the more senior activities in that playground. Simply stated, Business Dictionary says it is “a social networking website that allows users to publish short messages that are available to other users.” Don’t underestimate the power of 140 characters... revolutions have been forged and brought to fruition on this very fast moving platform. ... but there’s good news!!! Tweets can now be up to 280 characters in length... that’s **PROGRESS**!! (**Wait for the laugh**).

9. **Banking**... this one is easy... it’s the business conducted in a bank and involves accepting deposits and making other financial transactions including establishing loans, mortgages, credit, and so on.

10. **Market cap** ... is the abbreviation for market capitalization and refers to the “total dollar market value of a company’s shares.” The Motley Fool explains, “Market Capitalization is one of the best measures of a company’s size....” this may be a better predictor of a company’s health and potential as opposed to individual share price, which is defined as,”the price of a single share of salable stocks of a company.” It’s the “highest price someone is willing to pay or the lowest price for which it can be bought.”

(**Provide some of your introductory data in this spot and I will check spelling, grammar, etc. do about two to three pages of clear explanation and I will review**).

In today’s global environment, everything is accessible 24/7 and there is almost infinite data to be mined... and its **perpetual**. Facts, figures, quotes, memes all bombard us simultaneously from all manner of sources. Like the “I Love Lucy” skit with the chocolate on the conveyor belt, when the belt speeds up... does she catch all of the chocolate?? The simple answer is “No.” Capturing, disseminating, and employing all of the bits and bytes of financial data so that they provide constructive and beneficial guidance for enterprise and personal investors is the next great frontier... and **opportunity**. And I truly believe that Artificial Intelligence capabilities can certainly “digest” data more quickly than Lucy’s conveyor belt would be able to spit them out. No matter how much you may think you are personally and professionally “in it,” trust me.... we’re just beginning. This is clearly a growth opportunity for the financial sector. Let me show you why.

It’s no secret that social media is playing an ever increasing roll in every aspect of our personal, professional, and political lives. As technology matures and as trends evolve, we see the various niches in which each platform acts as the most productive form of gathering and disseminating information. ... and there are many many platforms. For this exercise, I will focus on Instagram and Twitter.... because unless the members of your financial advisor network all went to high school with you.... we’ll take Facebook off the table... for the time being... (**Wait for the laugh**). Average, savvy users of social media can easily see the best applications for the purposes required for each cause, profession, or project, and yes, Facebook, even with its **BILLIONS** of users worldwide, has become “the slower side of the playground,” although they are trying.

By a show of hands, how many of you have heard of **Noonoouri**? Ahhhh... didn’t think so... She is a “virtual fashion influencer” on Instagram. She goes to all the hot spots, attends all of the best shows.... and **YES**... she is in the front row.... and she has been seen in top magazines and by the side of “those who count.” She is said to be about eighteen years old. She lives in Paris, and “everyone” is talking about, with, and to her. The fashion industry and the world... including the tech world... is watching and noting what she favors. She currently has **ONE HUNDRED AND EIGHTY SEVEN THOUSAND** followers on Instagram.... of course that’s a pittance compared to the number of followers of her close friend, Kim Kardashian West... say what you will, she has **ONE HUNDRED AND NINETEEN MILLION** followers... Imagine the mine field of data you might be able to plumb if you were in fashion!!! (**Wait for the laugh**). To be clear, I advise this as an illustration and is by no means an endorsement of either account. But think of it... the colors, the choices, the designers, and most of all, the media and public reaction... each bit of information constitutes priceless research.

By comparison, let’s now take a look at the numbers in the finance sector...when I last checked, on Instagram,

* UBS has 30,700 followers.
* The hashtag, “stocks,” brought forth 1.4 million tags.
* The hashtag “finance” revealed 2.7 million tags.
* The account, @Fintory news has a mere 46.1 thousand followers
* @Forbes has 3.3 million followers on Instagram and 15 million followers on Twitter
* @Worldeconomicforum has over 800,000 followers on Instagram
* @Bloombergbusiness has 468,000 followers on Instagram and 4.9 million followers on Twitter. Okay. Now we’re getting somewhere... **HOWEVER...** 
  + Beth Stern... yes, Howard’s wife, has **OVER FOUR HUNDRED AND FIFTY FIVE THOUSAND** followers on Instagram... and that’s **JUST** for **KITTEN PORN**!!! (**Wait for the laugh**).

There’s even **MORE** to digest and consider... in order to be, as the old slogan went, “On top of the news and ahead of the times,” everyone must be aware of what is out there, the fields to be mined, how best to retrieve and leverage that information, and the potential for increased and greater accuracy when employing Artificial Intelligence practices and procedures to positively affect predictive business and financial outcomes... and remember this... each entity’s participation grows exponentially. It’s a symbiotic “win win” situation. But it takes all of us to make a difference to bring critical mass and attention to the data retrieval and dissemination required to maintain current and future profiles and efficiencies in the financial sector.

In an article published by Putnam Investments from July, 2018, the key “teaser” phrase was, “Advisors: Jump into Instagram with these 10 accounts to follow.. “ I also checked on Putnam Investments’ progress and presence on Instagram... 1217 followers and just **FOUR** posts as of the end of October, 2018.... looks like they’ve got some work to do!! Imagine how much sharper and more pertinent and valuable their advice will be as they grow their base.... By the way, the article recommends several of the accounts mentioned earlier. As with any kind of intelligence gathering, it’s also important to diversify to get a more complete picture from varied sources.

Finance is ripe for the infusion of curiosity and information sharing that is the hallmark of well planned and effective social media outreach. We all know that with it’s precursors, namely public relations, advertising, and the mining distribution of promotion through circulation in traditional media outlets, word of mouth catches on. We just have to take a look at and consider those more modern methods of connection in order to afford viability in the future... as the saying goes, “Adapt or die...” Engage enterprise and consumers, gather intelligence, and employ AI to sharpen the instruments needed to make incisive headway to profitability.

Stephen Hawking said, “The development of full Artificial Intelligence could spell the end of the human race...it would take off on its own and redesign itself at an ever increasing rate. Humans, who are limited by slow biological evolution, couldn’t compete, and would be superseded.” Knowing that, how do we design programs, employ social media, and deliver efficiencies that work to support financial potential for the benefit of all involved, including humanity?

(**Insert 2 to 3 pages of explanatory research text to satisfy this question**).

So, the question begs, how do we look forward while honoring the history and innovations that have supported our path to get where we are today? How do we implement the knowledge we are so rapidly gaining in order to support more predictable outcomes in the finance sector? How do we advance as a society while maintaining our connections to the tenable??? These are questions we seem to be asking ourselves, even if we don’t voice them aloud to others.

If you are in this room, there is a great chance you have truly earned your place here. We have an opportunity as colleagues, researchers, and shape shifters, to bring the financial sector to new heights of usability and functionality through Artificial Intelligence and the attendant technologies I have discussed today... But we have to find the way to innovate while using ethical practices that benefit not only the finance and business sectors, but ultimately **ALL** of us.

If there is anything we have learned over the past several years, it’s that information overload has “overloaded” all of us a hundred fold... constant connectivity is now an accepted way of life, and global shifts in educational, social, and financial sectors have caused us to experience both evolution and **REVOLUTION**. We all have the capabilities to jump in and participate, but we have to do so with care, integrity, and common sense... areas in which humans still hopefully prevail... (**Wait for the laugh**)

Ultimately, stock price prediction and market cap analysis is all sort of a game.... one that with research, relentless practice, and focus, can be won. We are constantly developing and refining AI techniques to serve our needs in the financial sector, and now, more than ever, we are gaining greater familiarity with the “toolbox” we have created to predict and analyze market conditions. It requires attention, patience, and confidence to put all of the pieces together while allowing room for growth and further understanding.

According to Research and Markets, the market for AI in financial services is expected to grow from 1.3 billion in 2017 to 7.4 billion in 2022, at a CAGR of 40.4%. So how do we find our niche and take an active part in these developments while keeping in mind the barriers that will have to be overcome, like (**explain these points further**):

* Conquering the legacy technology environment
* Lack of unified vision for digital applications across financial organizations
* Lack of personnel with the skills and expertise to implement innovation
* Budgetary considerations
* Confusion as to which departments in a company would take the lead in these sorts of programs.
* Identifying and connecting with symbiotic technology partners to advance understanding and viability.

(**Insert 2 or 3 more pages of your data and research regarding deep learning and its roll in the finance sector. Include both challenges to the process and proposed resolutions**)

Sergey Brinn and Larry Page, the founders of Google, have shared many insights that offer a shining light and encouragement for the next generations of developers and innovators. It is worthwhile for all of us to pay attention:

* Larry Page said, “Sergey and I founded Google because we are super optimistic about the potential for technology to make the world a better place.”
* Sergey Brin counters with, “The only way you’re going to have success is to have lots of failures first.”
* From Larry, “Excellence matters. I’ve pushed hard to increase our velocity, improve our execution, and focus on the big bets that will make a difference in the world.” He also reminds us that, “Optimism is important. You have to be a little silly about the goals you are going to set. You should try to do things that most people would not do.”

While it’s true that each one of us has the tendency and proclivity to get caught up in the minutiae of what we do... after all... it’s **ALL** in the **details**, right?? (**Wait for the laugh**) it’s critical for us to not lose sight of who we are, what we do, and how our process benefits our fellow human beings. We are not doing this to make computers better, smarter, faster.... well... we **ARE**... but we’re doing what we do to achieve the end goal of making life **better** for **people**. With cooperation, inclusion, teamwork, healthy curiosity, and dedication to improving conditions in the future, we can work together to make the world a better, safer, more predictive and productive environment for the finance sector as we employ the tools and technologies, like Artificial Intelligence.

The world economy is based on efficiencies of the finance sector. As we focus on the future and as we keep our minds open to learning new technologies, we will find that we can serve **everyone**. As long as we keep sight of the end use and the ethics that must be employed to get there, we will continue to learn and grow and serve humanity.... and who knows??? Maybe all of this exploration and innovation will go full circle... so much so that even Siri will correctly pronounce my colleague’s name!!! (**Wait for the laugh**).

I want to thank all of you for your patience, your curiosity, and your partnership in looking at ways to employ AI to augment positive results in business and finance!! Thank you!!

(**HS... I will work on the PowerPoint presentation once your input ... as indicated in my speech directions... has been completed. Please confirm that for the PowerPoint, if you use or provide information or charts, all will be clear with proper resolution and you will cite each source so I can give credit on each slide. This must be done. Remember there will be no music, video, or animation. Thank you**).