How is Machine Learning unique & different vs traditional computing?

In a traditional computer program, when you want to perform a calculation, you craft an algorithm in code that provides instructions for obtaining the output you want from an input. When executing an algorithm, you're providing inputs, the algorithm, and asking the machine to calculate the outputs, or result. In other words, your instructions are explicit.

But what happens if you don't have all of the inputs you need, or what if you don't even know the algorithm?

For complex problems in the world of data science, you often have a bunch of input data and associated outputs. You know there's a correlation between these, but the dataset is too complex to work it out on your own.

Enter Machine Learning (ML).

ML is a subfield of Artificial Intelligence (AI) that is focused on instructing a machine to infer the algorithm for a particular problem given only a set of inputs and outputs. Instead of being explicit, you provide implicit inputs and outputs, and ask the machine to calculate the best correlation between the two. This activity is called training.

After the training, when you provide a new input that the machine hasn't seen yet, you ask it to give you an output. This is called inference because the machine is inferring a result not based on an algorithm, but its own internal measure of the correlation between sets of data.

With the help of ML, you can train a model that can accept any unknown x, and infer a corresponding y value based on what the model learned from the input data above.

--Brandon Satrom

Source: https://blog.particle.io/2019/11/08/particle-machine-learning-101/



What Stage is my organization currently on the Al Marketing Canvas?

THE AI MARKETING CANVAS					
	AI-ACQUISITION	AI-RETENTION	AI-GROWTH	AI-ADVOCACY	
STAGE 5 MONETIZATION	Al to drive significant new revenue streams and/or new business models. Serve external customers as a platform.				
STAGE 4 TRANSFORMATION	Al to automate complete set of marketing activities across full customer journey. Strong in-house competency. "Build or Buy."				
STAGE 3 EXPANSION	Al across a broader set of marketing activities. Al Marketing Champion named. Efforts coordinated, and in-house capabilities begin to develop.				
STAGE 2 EXPERIMENTATION	Al-powered tools from third parties and vendors to get some quick learnings/wins at individual moment(s) in the customer journey. "A thousand flowers"				
STAGE 1 FOUNDATION			lity data to begin tra tomer relationship n		

(S1)

Do you have customer-level data? Is it in a usable, accessible format?

(S2)

Are you currently experimenting with AI solutions from 3d party vendors?

(S3)

Have you named an Al Marketing Champion? Are you developing in-house capabilities & solutions?

(S4)

Are you applying AI across the complete customer journey? Have you "bet big" with a major Build vs. Buy decision?

(S5)

Are you driving new revenue streams or business models with AI?



What are my Al Marketing commitments following this program?

What are the key takeaways that you want to communicate internally	, and
how will you do this?	

What are the key takeaways that you want to communicate <u>externally</u>, and how will you do this?

What stage is your organization at on the Al Canvas for Marketing?

What is the first experiment you want to run in your organization?

What changes will be necessary to how you collect and analyze data about your customers?

What changes will be necessary to your team--talent, culture and process?

What major challenges, barriers to success do you anticipate?



Al Marketing Resources

Recommended YouTube Videos explaining AI and ML

PBS Crash Course: https://youtu.be/z-EtmaFJieY
 Al for People in a Hurry: https://youtu.be/2ePf9rue1Ao
 7 Steps of Machine Learning: https://youtu.be/nKW8Ndu7Mjw

Recommended Reading explaining AI and ML

- "Prediction Machines" by Ajay Agrawal
 https://www.amazon.com/Prediction-Machines-Economics-Artificial-Intelligence/dp/1633695670
- "The Data Advantage: How to Create a Competitive Advantage with Data and AI" by Jose Aguilar https://www.amazon.com/Data-Advantage-Competitive-Artificial-Intelligence-ebook/dp/B07D95T744
- "Al and You" by Raj Ramesh https://www.amazon.com/Al-You-Transform-Artificial-Intelligence-ebook/dp/B07T4KDHZH
- "Understanding the Role of Artificial Intelligence in Personalized Engagement Marketing" by Jim Lecinski et al. (Email me for a copy) https://journals.sagepub.com/doi/full/10.1177/0008125619859317

Recommended online courses about AI in Marketing

- Artificial Intelligence and Machine Learning in Marketing (Free)
 https://academy.hubspot.com/courses/artificial-intelligence-and-machine-learning-in-marketing
- Al for Everyone (\$49, includes certification)
 https://www.deeplearning.ai/ai-for-everyone/

Recommended online experiential learning about Al

- Google's "Teachable Machine"
 https://www.youtube.com/watch?v=T2qQGqZxkD0
 https://teachablemachine.withgoogle.com/
- IBM Watson's "Machine Learning for Kids" <u>https://machinelearningforkids.co.uk/</u>

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