



EXperimental
Learning

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Big Data and Social Analytics certificate course

MODULE 5 UNIT 1
Data analysis pitfalls

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SA+P

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IN COLLABORATION WITH **getsmarter**



MIT BDA Module 5 Unit 1 Video

Learning outcomes:

LO1: Explain the difference between correlation and causation.

LO2: Outline the concepts of data deserts and data mirages, and how to address them.

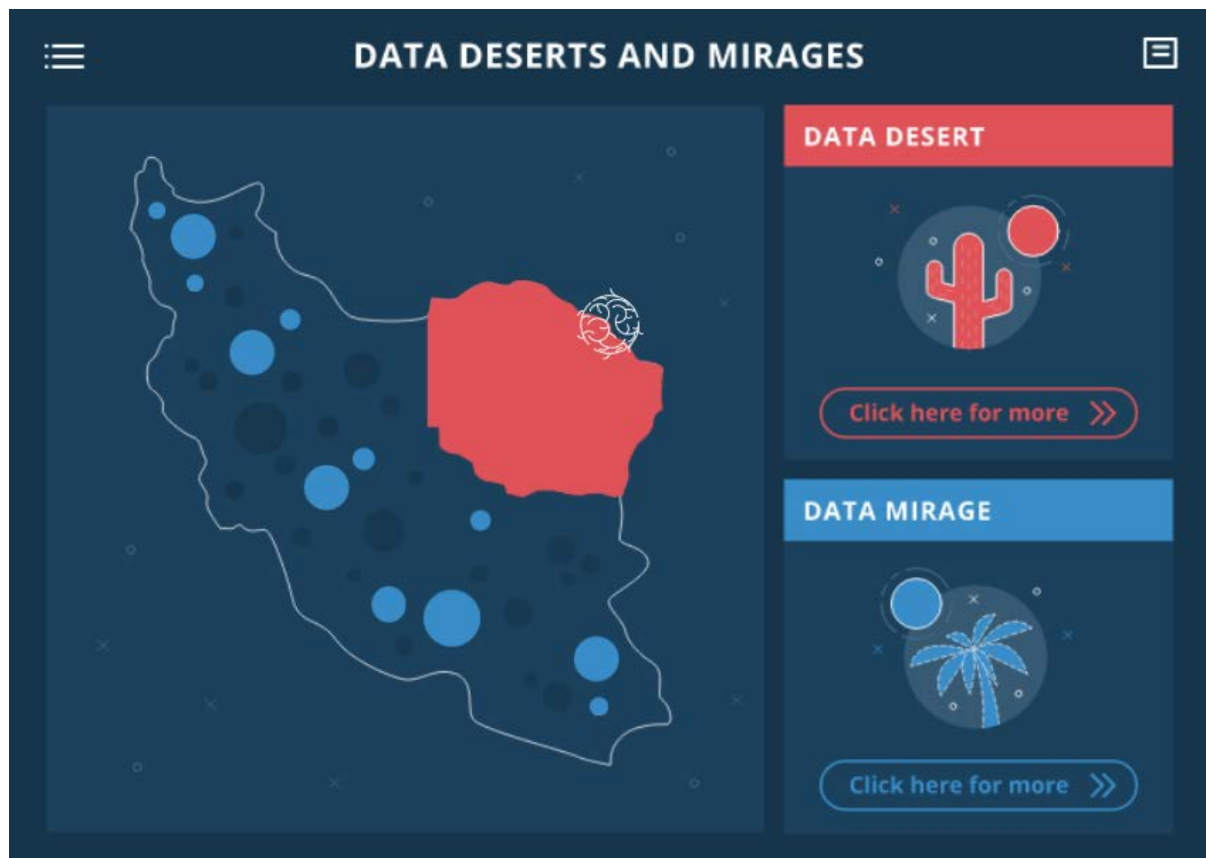
Title: Data analysis pitfalls

In Video 1, Professor Alex Pentland discusses the differences between correlation and causation, and why it's vital for any data analyst not to confuse the two.



Video 1: Professor Alex Pentland – Correlation vs causation.
(To download the video, [click here](#)).

Determining the difference between correlation and causation is not the only danger you are likely to encounter when working with big data. Data deserts and data mirages also have the potential to derail your analysis. The following interactive infographic outlines these concepts, and how to address them.



Interactive Infographic: Data deserts and mirages.

You are now ready to apply your knowledge

Now that you've engaged with Video 1, and the interactive infographic, you are ready to apply your newly gained knowledge by completing the corresponding activity in the Apply unit. You can access this activity by navigating back to your module learning path, or click to access it directly from here:

5.3 Small Group Discussion Forum: Addressing data analysis pitfalls



Reference list

Dada, Gerardo. A. 2015. "The Mirage of Data". *Business 2 Community*, January 2. Accessed June 2. <http://www.business2community.com/big-data/mirage-data-01108524#LgBgdZThC3sJb8F1.97>.

Korte, Travis. 2014. "Wikipedia Edits Reveal America's 'Data Deserts'". *Centre for Data Innovation*, September 10. Accessed June 2. <https://www.datainnovation.org/2014/09/wikipedia-edits-reveal-americas-data-deserts/>.

Sim, Aaron, Sophia N. Yaliraki, Mauricio Barahona, and Michael P. H. Stumpf. 2015. "Great cities look small." *J. R. Soc. Interface* 12: 20150315. <http://dx.doi.org/10.1098/rsif.2015.0315>.