

Practical Data Science: Wrangling Data and Answering Questions

Nick Eubank

What is Data Science?

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2. What (**empirically**) is Data Science?

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- Problem-first approach.
 - Data Science is an *applied* discipline!
- The tool you use should be dictated by the question you seek to answer

What (empirically) is Data Science?

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2. Computational power ↑

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⇒ Huge proliferation and increase in sophistication of computational methods

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⇒ Development of new tools occurred *within* each silo.

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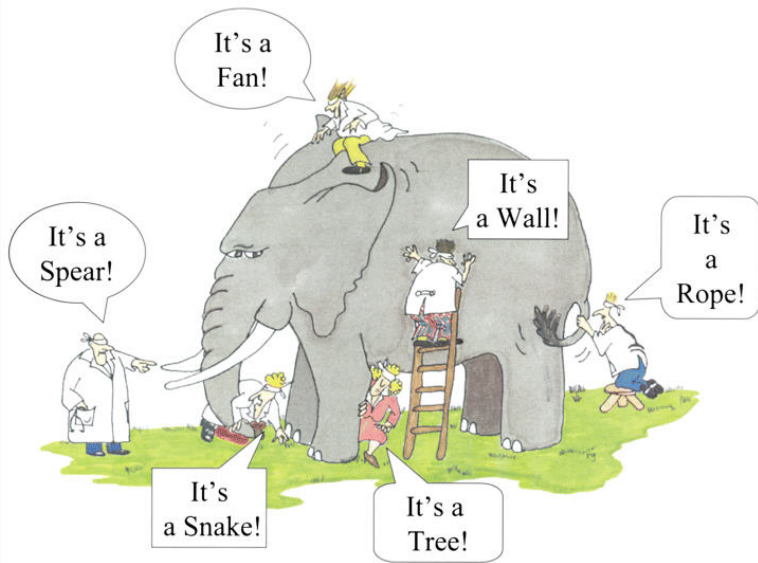
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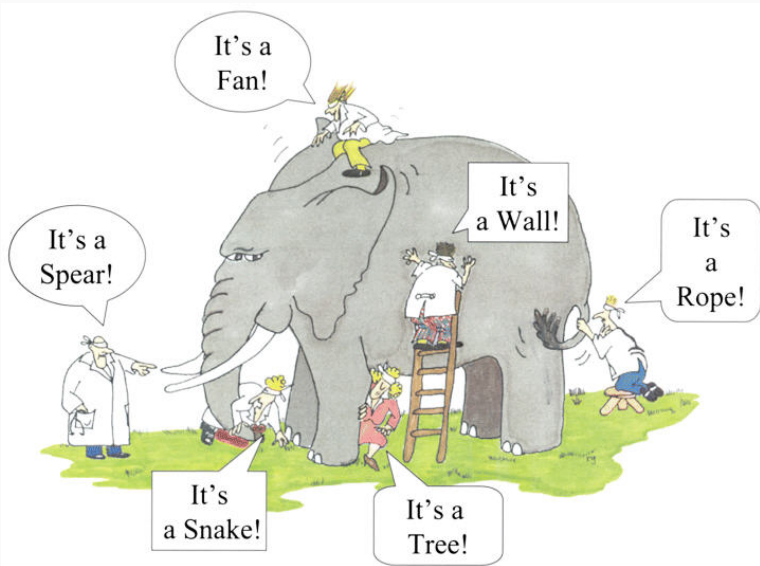
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- Each silo has focused on the aspects most relevant to their applications. e.g.:
 - CS likes to classify things and make predictions, don't care how model works
 - Social scientists like to make causal statements, don't care about predictive power





⇒ This is where we are *now*.

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→ Recognize the elephant

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 - That's why we have faculty from many fields.

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In this class, we will be focused on the **Data Analysis** flavor of Data Science.

This Class

“The Python Class”

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- *Data Science* Python

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 - numpy, pandas, scikit-learn, statsmodels, dask

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All through hands-on experience.

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⇒ Emphasis on generalizable data science skills

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- Know how to approach organizing a full project.

About Me

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- Developing methods of measuring Gerrymandering in the US.
- Testing theories about how social networks shape political behavior using cell-phone meta-data to map social networks of entire countries (Zambia and Venezuela).
- Studying whether political elites in the US South turned to using incarceration to prevent black voters from exercising political influence after the Voting Rights Act removed their ability to use Jim Crow restrictions.

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If this sounds like your “flavor” of data science, I'm happy to talk about career options in this domain.

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www.practicaldatascience.org