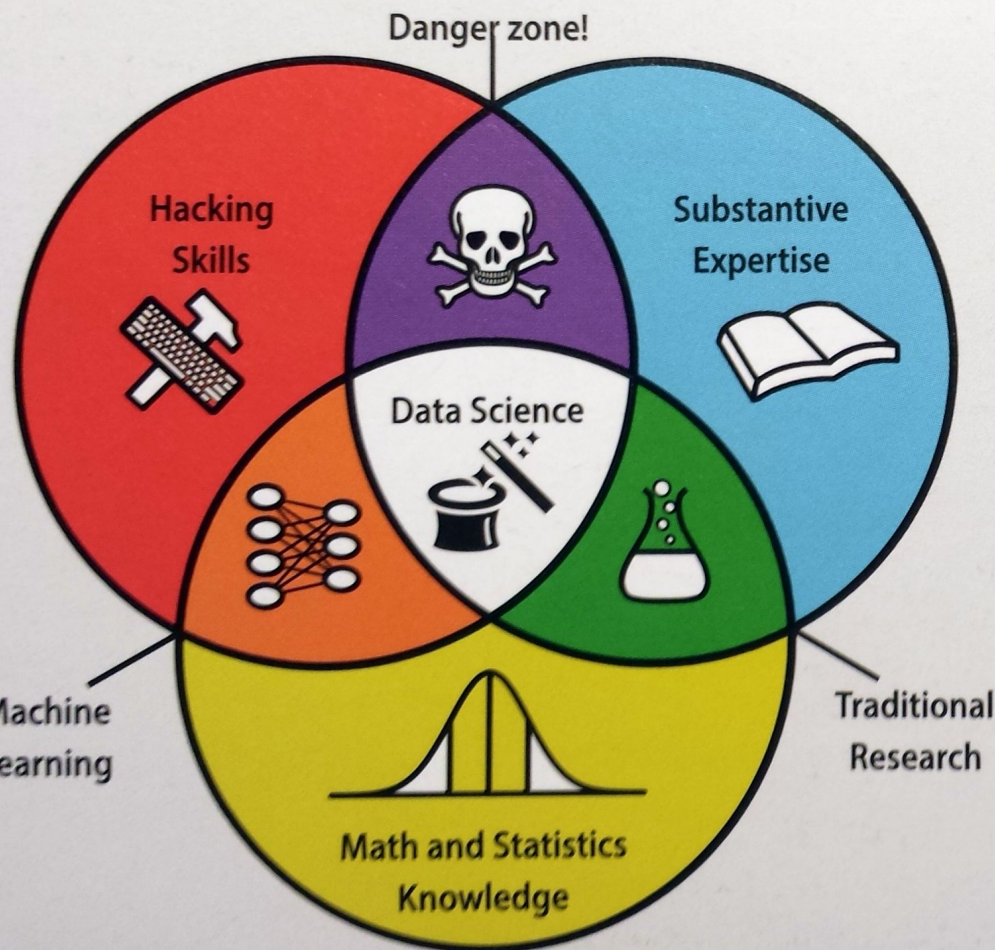


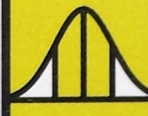
# DATA SCIENCE SKILLSET



Data science, due to its interdisciplinary nature, requires an intersection of abilities: **hacking skills**, **math and statistics knowledge**, and **substantive expertise** in a field of science.



**Hacking skills** are necessary for working with massive amounts of electronic data that must be acquired, cleaned, and manipulated.



**Math and statistics knowledge** allows a data scientist to choose appropriate methods and tools in order to extract insight from data.



**Substantive expertise** in a scientific field is crucial for generating motivating questions and hypotheses and interpreting results.



**Traditional research** lies at the intersection of knowledge of math and statistics with substantive expertise in a scientific field.



**Machine learning** stems from combining hacking skills with math and statistics knowledge, but does not require scientific motivation.



**Danger zone!** Hacking skills combined with substantive scientific expertise without rigorous methods can beget incorrect analyses.