Chase Conaway

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CptS 475

Professer Assefaw

HW1

1. Plots
   1. The most effective for me would be what I am best at to what I am the worst at, and it looks like a fun slide going down. So I chose to plot them from best to worst for me.
   2. One skill I think that should be added is Critical Thinking/ Problem Solving. It is inherent to most of the other categories, but can really help a person see where they can grow. Also, the critical thinking section is different enough than the other categories to list it, even though it is a part of the other categories.
   3. A graph of red bars

      Description automatically generatedA graph of a graph

      Description automatically generated
2. Dhar’s Article
   1. Data science differs from statistics in a few ways:
      1. The raw data is increasingly heterogenous and unstructured.
      2. Analysis requires “integration, interpretation, and sense-making” which all rely on other tools made from other areas of focus, such as computer science, linguistics, and other areas.
   2. Essentially, for the hard sciences, large amounts of data would allow physicists and such to extract (assumed) complete causal models of relationships. In the social sciences. For the social sciences, they have access to large swaths of data, and with big data and machine learning. This allows them to make models based on their data and present it is a model.  
      One way I can see it helping both hard sciences and social sciences is the availability of data. Having more data allows our algorithms and people to draw more accurate conclusionsabout certain topics. We are more likely to find causal affects in the social sciences with what we have available to us.
   3. **The benefits and uses of Data Science, and how it can benefit the social and physical sciences**Data science is not just statistics. The availability of massive amounts of data allows for data scientists to draw better, more accurate conclusions across all sciences. Machine learning plays a big part in the skill set of data scientists, allowing them to have a machine do they down and dirty work, while they can generate conclusions from what the algorithm spits out.