

Project Idea for Capstone

Visual Explanation About the Charts Using Question Answering System

Use Cases

- Easier interpretation of graphs by novices' in the data science field or by any user with less introduction to data visualization.
- Helps a company or an organization to automate the process of chart analysis and draw conclusions from the data
- Visual plots are commonly found in research papers, scientific journals, business records e.t.c. Therefore, automation of plot analysis through the means of question-answering aids an individual to draw statistical inferences quickly from them.
- Visual question answering models on charts, help data analysts question and reason plots on a large scale, and automate the decision-making capabilities in several sectors. Eg: The finance sector.
- Improvement in machine reasoning capabilities.
- Can assist blind people to interpret the graphs by taking in the audio as an input

- This has a long term application in the ever-growing field of data science
- This is a unique area of research and has very few research contributions
- Final deliverables:
Paper publication on this topic and build a GUI to support our work
- Official Paper: <https://dhkim16.github.io/vis-qa/pdf/paper.pdf>
- Datasets :
 - FigureQA Dataset by Microsoft
Description: The dataset consists of yes/no question and contains a huge variety of graphs
<https://www.microsoft.com/en-us/research/project/figureqa-dataset/>
 - VisQA Dataset
Description: The dataset consists of different variety of questions along with descriptive answers(open-ended) and is limited to a few variety of graphs
<https://github.com/dhkim16/VisQA-release/tree/master/dataset>