1st Peer Response by Srihari:

Hi Danielle,

I found your point regarding how even though data science is progressing rapidly, the human element is still there and is still very much needed by businesses in order to manipulate the data that they create. Even as automation progresses, the unique human ability to comprehend business needs and craft meaningful questions from relevant data remains vital. Li (2020) reinforces this view, stating that despite automation's capabilities, it cannot replace the creativity and business understanding needed to ensure data science tasks like data munging, cleaning, and feature engineering are contextually relevant and accurately executed.

While the evolution of data science responsibilities offers promising advancements, it also raises concerns. Yıldırım (2020) emphasizes that the data science field's complexities can already be overwhelming, particularly for newcomers. As roles expand beyond data preparation and into more specialized roles, the pressure on data scientists may intensify. Although automation can lighten workload and allow for deeper problem-solving, it simultaneously elevates expectations for individual contributions too.

Li (2020), Will automation eliminate data science positions? https://techcrunch.com/2020/08/27/will-automation-eliminate-data-science-positions/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAABXwZwZhnxU-51aRtNyhjs7Gb7P1z3aPAosj1SNvjj4FyyIoI1tgCVr8EsvDbdjtTJqhJv3aF7VqPPjXTMxqHTATA4sqzxCd573PHepkE8kBt7NZuqG7aLixPBfsHnE1EEdd4d4Qw08Xm5FM1qxatGvOU40UBA9aeaWu6zYoCncF [Accessed 21 May 2023].

Yıldırım (2020), The Dark Side of the Sexiest Job of the 21st Century https://towardsdatascience.com/the-dark-side-of-the-sexiest-job-of-the-21st-century-fd9c46bf4cae [Accessed 19 May 2023].

2nd Peer Response by Nelson:

Dear Danielle,
I must agree with you when you acknowledge that the task of data scientist in the future would be automated and also that data scientist who want to remain relevant must focus both on the automated data science tools as well as on the human part of data science which are the curiosity, the insights, and the ability to research and explore data.

These automation tools should be a complement to the data scientist rather than a competitor. There are still huge amounts of things done manually by data scientists and they pose challenges to machine learning implementation. It is critical for organizations not to view automation as a "replacement" for data scientists but instead as a tool of the trade and an enabler for building better models (Ryohei Fujimaki, 2023).

References:

Vidhi Chugh (2023) Automation in Data Science. https://www.kdnuggets.com/2023/03/automation-data-science-workflows.html [Accessed 12 May 2023].

3rd Peer Response by Jeff:

Hi Danielle,

I agree with your opinion that Automated machine learning (AutoML) cannot understand the problems of a business etc that the value provided by data scientist is important.

I would like to share another view from Berthold (2019) that defined data scientist in 3 types: novice, apprentice and expert.

A novice can be easily replaced by AutoML as they can only complete a project with well-defined goals and data.

An apprentice can complete a project a with less defined goal. This type of data scientist requires some experience from working as data scientist as they need to have the ability to identify issue and figure out the solution from issue.

An expert is an experienced data scientist that can provide new insight from existing data. This type of data scientist requires time to develop however employers nowadays expect every one is an expert. What is your opinion on this harsh requirement from employers and how can a data science student be prepared for it?
My idea is university provide some practical exercises for students during their study.

Berthold, M.R. (2019). What Does It Take to be a Successful Data Scientist? Harvard Data Science Review 1(2) doi:10.1162/99608f92.e0eaabfc. [Accessed 22 May 2023].

4th Peer Response by Chiazamoku:

Hello Danielle,

I agree with you that automated systems cannot understand the problems of a business, and the data source to explore, and would not know how to use the results they generated. Generating results from available data is not the main goal of any organisation rather it is the ability to interpret and apply the results generated to solve business problems and achieve business goals.

Bowne-Anderson (2018) stated that the major skills of a data scientist are in their ability to learn and adapt in a fast-growing data science workflow to communicate and explain complex findings to nontechnical stakeholders and answer business questions, and not in the ability of data scientists to use tools and automated systems because these systems can go obsolete with time but the critical thinking and quantitative domain-specific skills of a data scientist will remain in demand.

Reference

Bowne-Anderson, H. (2018) What Data Scientists Really Do, According to 35 Data Scientists Available from: https://hbr.org/2018/08/what-data-scientists-really-do-according-to-35-data-scientists [Accessed 18 May 2023]