2a

Could you briefly share some of the key problems your team has solved using AI technologies?

2b

Given the following AI quality attribute, how important is it in your domain?
(Please rate on a scale of 1 to 5, where 5 = critically important, 4 = highly important, 3 = moderately important, 2 = minimally important, and 1 = not important.)

1. **Correctness**: How accurately the model performs its intended function and produces the expected outputs.

2b

If you consider the AI quality attribute important in the previous question, could you describe the specific challenges you face in ensuring that attribute, and the strategies you use to address or mitigate those challenges?

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2. **Robustness**: The model's ability to produce correct results when exposed to new, unseen, or noisy data and resist adversarial input perturbations.

2b

If you consider the AI quality attribute important in the previous question, could you describe the specific challenges you face in ensuring that attribute, and the strategies you use to address or mitigate those challenges?

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2b

Given the following AI quality attribute, how important is it in your domain?
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3. **Efficiency**: A trained AI model's ability to produce outputs with minimal time, computational power, and energy.

2b

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2b

Given the following AI quality attribute, how important is it in your domain?
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4. **Fairness**: It ensures that the model's decisions do not contain discrimination or bias against certain demographic groups or protected attributes.

2b

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Given the following AI quality attribute, how important is it in your domain?
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5. **Explainability**: The ability to explain the model's decision-making processes.

2b

If you consider the AI quality attribute important in the previous question, could you describe the specific challenges you face in ensuring that attribute, and the strategies you use to address or mitigate those challenges?

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6. **Privacy**: It ensures that personal and sensitive data related to the AI model (e.g., training data) is protected from unauthorized access.

2b

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Given the following AI quality attribute, how important is it in your domain?
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7. **Scalability**: It measures the model's ability to maintain acceptable performance when its workload or the amount of data it handles increases.

2b

If you consider the AI quality attribute important in the previous question, could you describe the specific challenges you face in ensuring that attribute, and the strategies you use to address or mitigate those challenges?

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Given the following AI quality attribute, how important is it in your domain?
(Please rate on a scale of 1 to 5, where 5 = critically important, 4 = highly important, 3 = moderately important, 2 = minimally important, and 1 = not important.)

8. **Deployability**: It measures the ease with which an AI model can be integrated into existing environments, workflows, or systems while maintaining its performance and functionality.

2b

If you consider the AI quality attribute important in the previous question, could you describe the specific challenges you face in ensuring that attribute, and the strategies you use to address or mitigate those challenges?

8. **Deployability**: It measures the ease with which an AI model can be integrated into existing environments, workflows, or systems while maintaining its performance and functionality.

Which quality attribute do you consider most important to ensure before deployment? Does this priority remain the same across all your models, or does it differ based on factors such as model type or application domain?

2c

Is the **AI software development workflow** that your team adopted significantly different from the **classical software development workflow**, for example, Scrum or Waterfall? Can you briefly describe your workflow?

4a

Have you utilized **self-collected data**, **purchased data** from other companies, or **open-source datasets** to create training/testing datasets? What factors influenced your decision-making process in selecting these sources?

12a

What components of the AI model development process are **fully automated**, and what components require **human intervention**?

3b

Could you provide examples of how you would determine **which attribute of an AI software** (such as correctness, fairness) **to prioritize** based on the **client's requirements**? How would you **align** the client's needs with these aspects?

4c

Do you have experience that you had **limited data** to work with? How did you and your team ensure that your AI models were still **reliable**?

5c

Usually, the data distribution of the target environment of AI software will drift over time. For example, let's consider an AI model for predicting house prices in a certain area. Over time, factors like the local economy, population growth, or even unforeseen events like natural disasters could change the housing market dynamics. The model that was initially trained on past data may no longer provide accurate predictions because the data distribution it was trained on has drifted from the current reality.

In the context of your recent projects, do you believe that they are or could be affected by data drifting over time? If so, how would you approach this issue to ensure that your AI models remain high quality as the underlying data changes? How frequently data update is needed?

5a

What methods will your team use to validate and clean data in order to ensure data quality? Will this process influence the quality of the AI project?

5d

If you could **envision a tool** to assist in addressing **data quality issues** in your AI projects, what key features or capabilities would you desire? How would this ideal tool facilitate your work and improve the overall quality of your data?

8a

In the projects that you have developed, when do you prefer to develop models **from scratch** and when do you prefer to **fine-tune a pretrained model** to assure project quality? What affects your decision-making process?

Under the context that you decided to utilise a pre-trained model:

- Which **source** do you want to search for a suitable PTM? (e.g. Hugging Face, GitHub, PyTorch Hub etc).
- How to find a suitable **model architecture**?
- How to find a suitable **model size & precision**? The bigger the better?

11b

Are AI-specific logging libraries, such as mlflow and wandb, being used in your project to track the quality of AI software? If so, how do you use them?

What is the maximum acceptable **failure rate** that your AI software can have?

7a

What strategies would you usually employ to **select the features** that will be involved in the **model input** in order to obtain a high quality? What will influence your decision-making?

8d

What techniques and tools do you use for **hyper-parameter tuning**?

12b

What tools or frameworks have been most helpful for developing or deploying your AI models?

12c

If the project deadline is tight, how would you prioritize the evaluation criteria and why?

10a

What strategies are typically employed to ensure that quality outcomes obtained in the development environment can accurately reflect the expected quality outcomes in the deployment environment?

11a

What are the main differences between checking the quality of AI software **before deployment** and **after deployment**?

4b

Do you use any method to **generate/expand datasets**? How do you ensure the quality of the generated data?

6a

What process would your team usually use to **organise the data labelling process** in order to obtain good data quality while using a relatively low cost?

12d

Have your team managed to obtain **feedback** from the end users? To what extent can end users' feedback help to **improve** the AI project's quality?

12e

In the field of AI products, gaining customer **trust** is paramount to the successful deployment and adoption of the solutions. The users need to trust **not only the accuracy** but also the reliability, fairness, and transparency of the models. Could you share your strategies or specific actions taken to **build and maintain this trust** in your AI products?