Welcome to this survey.

The purpose of this study is to gain a better understanding of what is needed to achieve reproducibility of Machine Learning (ML) Experiments. The results of this study will help us in developing tools that support reproducibility. In turn, this will (hopefully) benefit the scientific community.

This survey should take less than 5 minutes to complete. This survey is completely anonymous. We provide this survey in the context of Werkstatt Project. If you have any questions regarding this survey, please contact Sheeba Samuel (sheeba.samuel@uni-jena.de).

Section A:

A1. What is your current position?

- ☐ Bachelor Student
- ☐ Master Student
- ☐ PhD Student
- ☐ PostDoc
- ☐ Research Assistant
- ☐ Professor
- ☐ Data Manager
- ☐ Other

Other

A2. **Have you ever reproduced Machine Learning (ML) experiments from the publications of other scientists?**

Yes ☐
No ☐

A3. **Have you ever been unable to reproduce published results of others?**

Yes ☐
No ☐

A4. **Have you faced any kind of challenges/problems in repeating or reproducing ML experiments?**

Yes ☐
No ☐

A5. **What are the kind of challenges/problems you have faced while repeating or reproducing ML experiments?**

A6. **Are code and dataset provided in the publications sufficient for reproducing ML Experiments?**

Yes ☐
No ☐

A7. How important is it to describe the research method and the associated variables for the reproducibility of ML experiments?

	Not Important At All	Average Importance	Very Important
Problem	☐	☐	☐
Objective/Goal	☐	☐	☐
Research method	☐	☐	☐
Research questions	☐	☐	☐
Pseudo code	☐	☐	☐

A8. How important is it to describe the data processing step and the associated variables for the reproducibility of ML experiments?

	Not Important At All	Average Importance	Very Important
Data collection process	☐	☐	☐
Explanation of any data that were excluded	☐	☐	☐
Pre-processing step	☐	☐	☐
Sample allocation for training / validation / testing	☐	☐	☐
Range of hyper-parameters considered	☐	☐	☐
Method to select the best hyperparameter configuration	☐	☐	☐
Specification of all hyper-parameters	☐	☐	☐
Exact number of evaluation runs	☐	☐	☐
Error bars	☐	☐	☐

A9. How important is it to describe the data and the associated variables for the reproducibility of ML experiments?

	Not Important At All	Average Importance	Very Important
Training data	☐	☐	☐
Validation data	☐	☐	☐

	Not Important At All	Average Importance	Very Important
Test data	☐	☐	☐
Results	☐	☐	☐

A10. How important is it to describe the experiment and the associated variables for the reproducibility of ML experiments?

	Not Important At All	Average Importance	Very Important
Hypothesis	☐	☐	☐
Prediction	☐	☐	☐
Method source code	☐	☐	☐
Hardware specifications	☐	☐	☐
Software dependencies	☐	☐	☐
Experiment setup	☐	☐	☐
Experiment source code	☐	☐	☐

A11. Which are the other variables from your experience that are a must for the reproducibility of ML experiments?

A12. **Which are the tools do you use in performing ML experiments? (For e.g. Script, TensorFlow)**

A13. **Do the tools that you use provide provenance support (Clear description of how the experiments are conducted with input, output and the executions and how the results are originated)?**

Yes ☐
No ☐

A14. **If ML experiments are properly described with all the entities of the experiments and their relationships between each other, will that benefit you and how?**

Yes ☐
No ☐

A15. Do you use docker or containerization technologies for the management and reproducibility of ML Experiments?

Yes ☐

No ☐