**User Interview Questions**

**Demographics**

1. What is your name?
2. What is the highest degree of education you have completed?
3. Which industry do you work in?
4. What is your job title? What are your main responsibilities at work?

**Previous experience**

1. How long have you been working in the current role?
2. What do you mainly use machine learning for? Can you provide a few examples?
3. Do you have any experience in the machine learning research? If yes, what is it?

**Use case**

1. Do you use hyper-parameter tuning in your machine learning-related work?
2. If so, what methods do you use for hyper-parameter tuning?
3. Can you describe a project for each of the hyper-parameter tuning methods you used?

**Data**

1. What type(s) of data were used, such as text, image, location, time series, or a mix of multiple types?
2. Roughly how big was the dataset? Please list the size for each if there are multiple datasets involved.
3. Are these real data or generated?
4. For real-world data, what percentage of the data is labelled? Was it labelled by human?
5. Is the dataset publicly available?
6. Were there any data quality issues? If so, does it affect hyper-parameter tuning?

**Tasks**

1. What was the goal of analysis?
2. What types of machine learning methods were used, e.g., Classification, Regression etc?
3. Were there any difficulties/challenges in performing the tasks?
4. How did you proceed to overcome the difficulties/challenges faced during the analysis?

**Hyper-parameter tuning**

1. What is your general approach for hyper-parameter tuning? For example, do you start with some recommended values and only change them slightly, or do you test a wide range of possible values?
2. What algorithm/method did you use for hyper-parameter tuning? e.g., Grid Search, Random Search etc.
3. Why did you use the specific algorithm/method?
4. Did you utilize any machine learning library to perform hyper-parameter tuning?
5. Did you find it difficult to track and compare the results of different parameter settings? If so, how did you deal with it?
6. Did you find it time consuming to run the tests, such as the cross validation? If so, how did you deal with it?
7. Did you face any other difficulty/challenge in tuning? If yes, what are they and how did you deal with them?
8. Do you think you find the best parameter values? Or you may discover better values if there is more time and/or computation resources?

**Grid search**

1. Did you use grid search as the hyper-parameter tuning algorithm in your project?
2. If no, why did not you use grid search?
3. Did you utilize any grid search library for it?
4. How did you design the grid e.g., search space etc.?
5. Did you face any difficulty while implementing grid search? e.g., time consumption, efficiency etc.
6. Did you face any difficulties working with grid search with large number of parameters e.g., n>100?