Based on what you have developed in your research, I consider it necessary to create a project where good testing practices can be applied by integrating Machine Learning with automation and interface tools, achieving a hybrid testing between conventional tools and Machine Learning algorithms.

The type of project according to this criteria, must be one that has a balance between complexity and meets all the requirements of the investigation.

I propose the next project:

A logistics solution, with a Mobile component, a webservice and a backend component for administration and finally, a management dashboard.

- Developed in:
    - PHP
    - JavaScript
    - React Native
- Database
    - MsSQL
- Dashboard:
    - Microsoft Power BI Report Server.
- Automatic testing tool:
    - Selenium
    - LoadRunner
    - JMeter
    - Soap UI

Mobile app for carriers, webservice receiving and sending information between backend and mobile app, the backend for distribution administration, order loading and unloading, then the dashboard for decision making and service status.

With this project scheme, you have all the possible testing varieties to perform. Each project module has the possibility of carrying upload and stress testing, putting the ML algorithm to test results, automatic testing in other modules and that result WITHOUT ALGORITHM is used to feed the ML.

What is necessary on your part is:

1. Choosing that Algorithm is the one you best understand since you should defend it in the presentation of your work.
2. Define the level of detail of the documentation that I should prepare, I suggest
    a. Test plan
    b. Test cases only for the critical functionalities
    c. According which testing tool will be used, diagram specifics test cases
    d. Workflow
    e. High level Architecture diagram

I believe more documents will be not useful because you don't need to prepare a project documentation.

Please give me your feedback.

Thanks