**Project management:**

* Establish the conditions/assumptions.
* Decide and set up the management structure (GIT/TRELLO/TEAMS/…)

**Wat zijn de “grote project onderdelen”:**

* Data collection.
  + Decide with which “sensor” type (lidar/sonar) to use in 1st instance
  + Identify the labels for the dataset.
    - If S3 > S1 Angle = -22
    - If S1 > S3 Angle = 0
    - If S2 > S1 Angle = 22
  + Understand the present code.
  + Run de circuit 3 times and store the data
* Data interpretation.
  + Feature selection.
* Develop the neural network.
  + Define problem type – regression/classification
  + Define inputs – outputs.
    - How to “load the data”
    - Define structure NN (number of layers, initial weights and bias).
  + Identify training intensity.
  + Establish loss function to be used.
* Train, test and validate the model.
  + Build and execute the training module.
* Implementation
  + Connect the developed module to the existing software
  + Test the integrated software.
  + Transform de notebook to a “transferrable” software package

**Deliverables:**

* Vastlegging van inzichten en experimenten in een Jupyter Notebook
* Korte onderbouwing van gemaakte keuzes (ontwerp, implementatie)
* Overzicht van de testresultaten (nauwkeurigheid, foutmarges) en advies (bruikbaarheid?)
* Uitdraai van git historie (geeft een beeld van software development proces)
* De uiteindelijke broncode moet als zip-bestand worden ge-upload naar je eigen Teams kanaal. Volg hiervoor de stappen op <https://github.com/AlxcNL/MakeAIWork2/blob/main/PROJECT_EXPORT.md>

Upload bovenstaande **vóór de deadline op maandag 8 mei, 12:00 uur** naar:

Teams > Applied Artificial Intelligence - Make IT Work >   
Jouw Private Channel > Files > Deliverables periode 2 > Project 2

Zorg daarbij voor de volgende mappenstructuur:

* Notebooks
* Onderbouwing
* Advies – no need to do something with this subject
* Git-historie
* Broncode

**Questions (to the teachers) about the deliverables:**

* Would it be sufficient to base the project only on sonar? = OK; doch het is makkelijk Lidar toe te voegen.
* What does advice mean
* What should the “broncode” contain
* Why is our loss curve “spiky”? = geen probleem

***To do:***

* Finalize the model and the implementation
* W**e need to provide (in a separate document) an argumentation of the main choices:** 
  + Lidar versus sonar
  + Problem solving approach: use of Relu
  + Usage of the number of layers and nodes
  + Which number of epochs used and the learning rate
  + Which choices made with the integration of “trained self steering module” in the existing software
* **Create an overview of the test results of the self driving car**
* **Develop the final “broncode”**