

# *Operational research for urban solar development*

*“PV failure detection based on operational time series”*

22/12/2023

Alexandre Mathieu



# Curriculum Plan

Day	Time	Duration	Content
<b>Monday</b> <b>27/11/2023</b>	9h45-11h15 12h30-14h	1h30 + 1h30	50% Lecture / 50 % Hands-on
<b>Tuesday</b> <b>05/12/2023</b>	8h-9h30 9h45-11h15	1h30 + 1h30	50% Lecture / 50 % Hands-on
<b>Thursday</b> <b>07/12/2023</b>	8h-11h 12h45-15h45	6h	25% Lecture / 75 % Project
<b>Monday</b> <b>11/12/2023</b>	8h-11h 12h30-15h30	6h	10% Lecture / 90 % Project
<b>Friday</b> <b>22/12/2023</b>	8h-9h30	1h30	100 % Project

Today →

# Agenda



## Project – Outputs

## Project: some details

Only train your Machine Learning models on January and July

Installation date: Oct-2017

# Project outputs

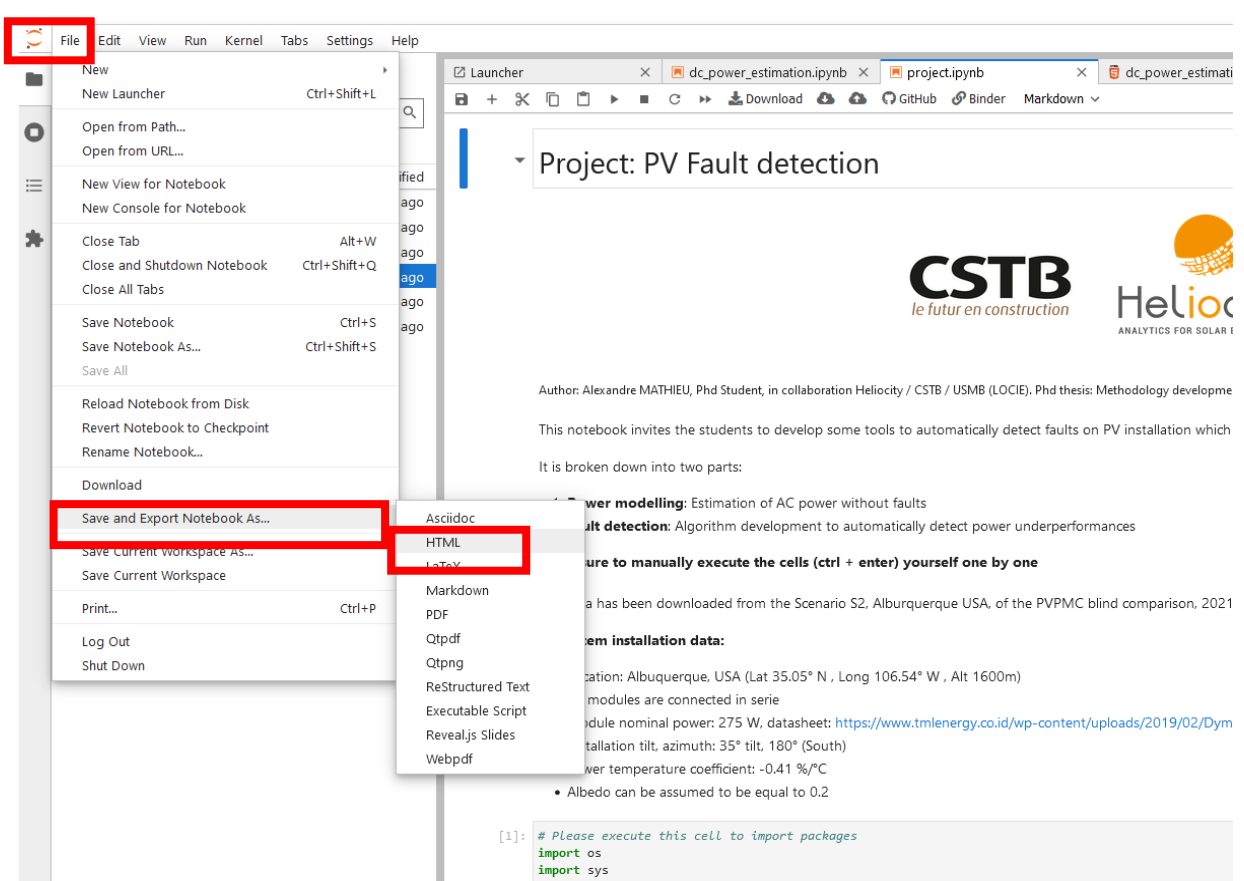
## I. HTML export of your notebook: See example to the right

(Make sure to insert your name in it)

## II. Four CSV files:

(Python command: `dataframe.to_csv('initials_estimation.csv')`)

1. One collecting the AC estimation variables with those specific column names:
  - 4 columns ["gpoa\_estimated", "t\_mod\_estimated", "dc\_power\_estimated", "ac\_power\_estimated"]
- 2. Three csv files (one for each failure) with energy loss as values and datetime as index:
  - Shading
  - Inverter clipping
  - Module short-circuit



## Project outputs

Send the 5 csv files + Html notebook to me by mail [alexandre.mathieu@cstb.fr](mailto:alexandre.mathieu@cstb.fr) .

*That's it*

