



JSPH 2025

Un nouveau modèle prédictif pour *Alternaria solani* basé sur les réseaux neuronaux artificiels

Unité/Labo: LTA

Nom/contact: T Marique, M Bonnave, C Vryghem, B Couvreur, D Lanterbecq, J Rivière, O Mahieu

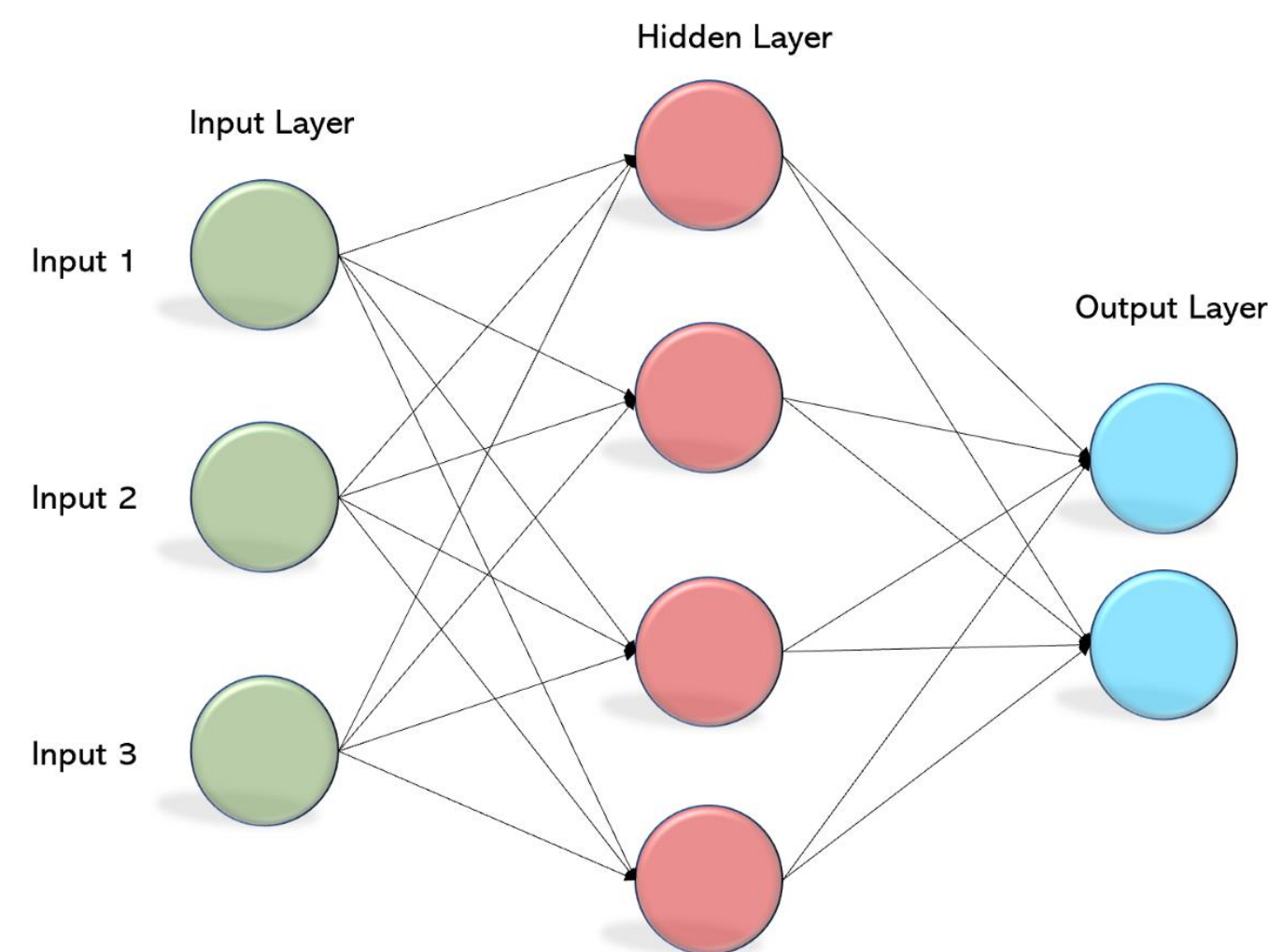
20/05/2025



- Haute Ecole Provinciale de Hainaut – CONDORCET
- CARAH agricultural research center
- Hainaut Analyse (biotech)

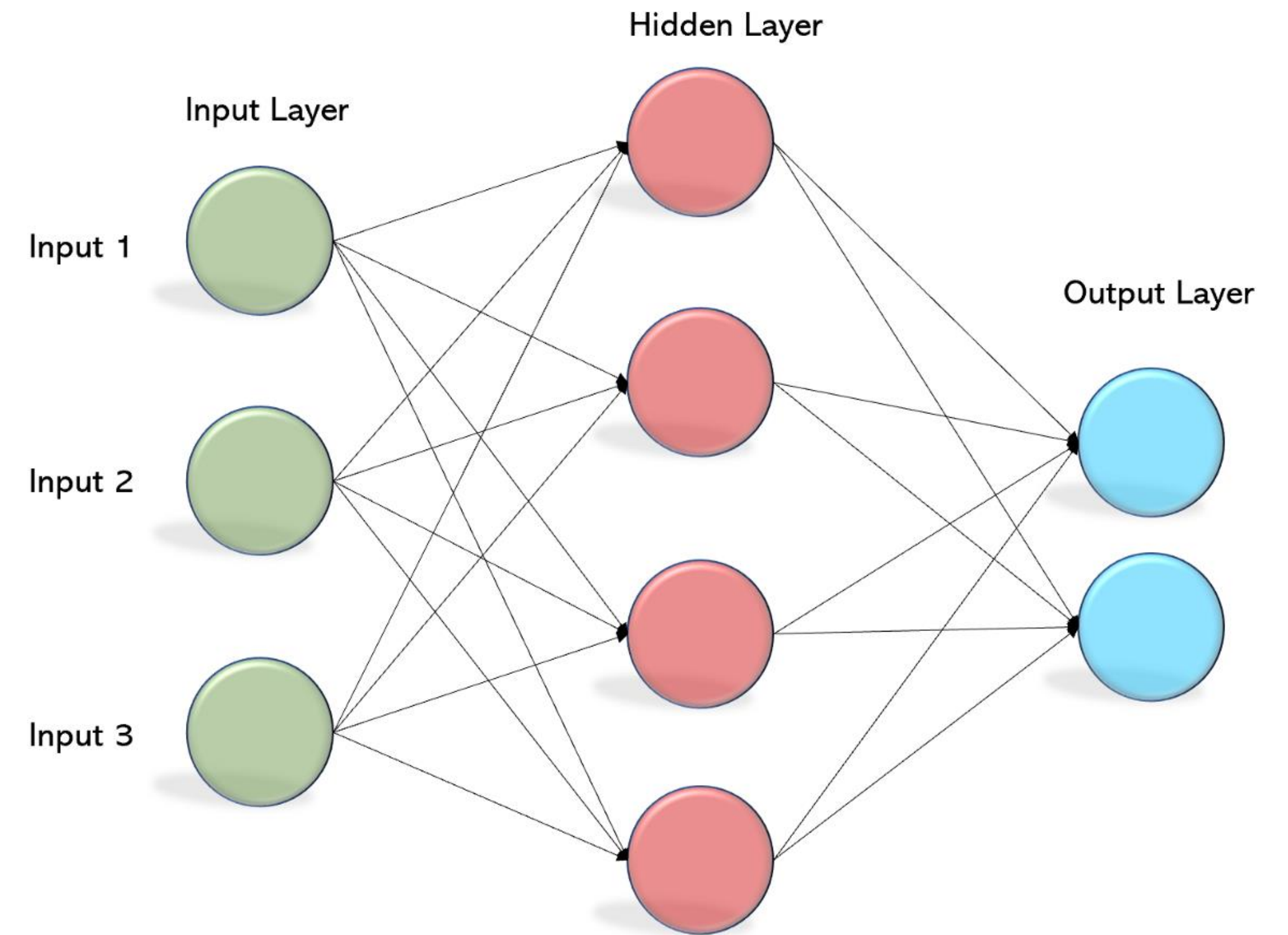


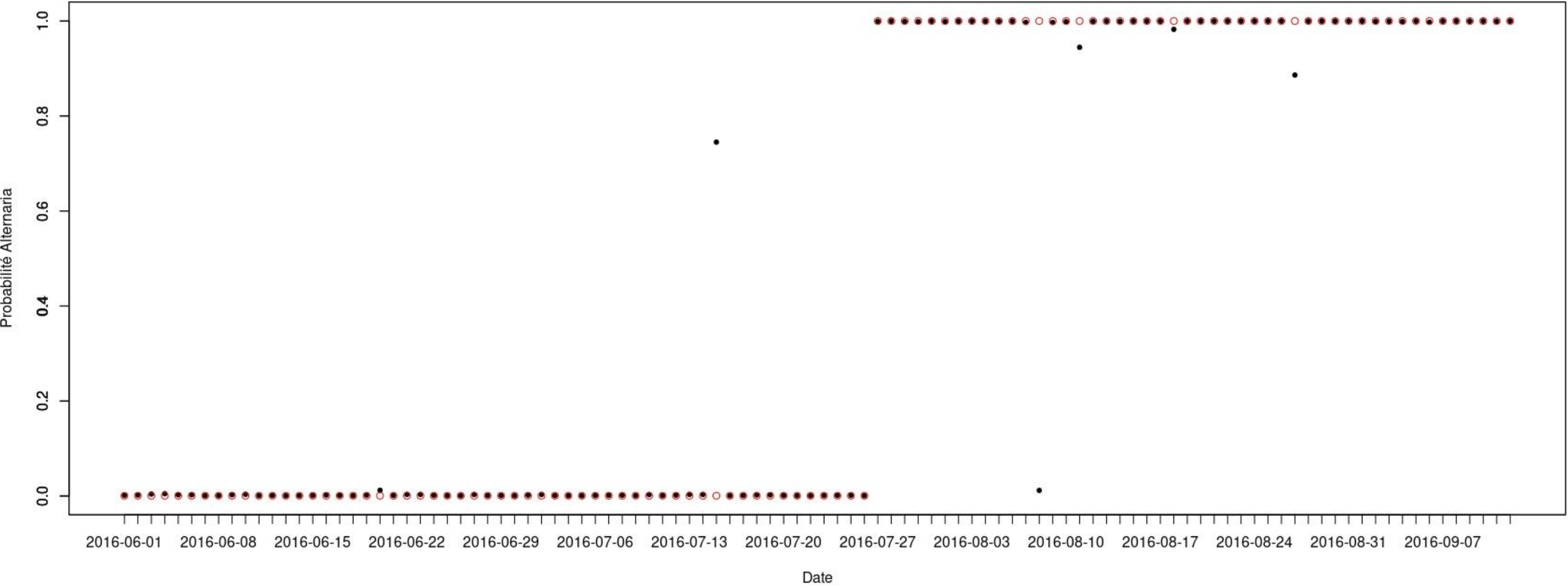
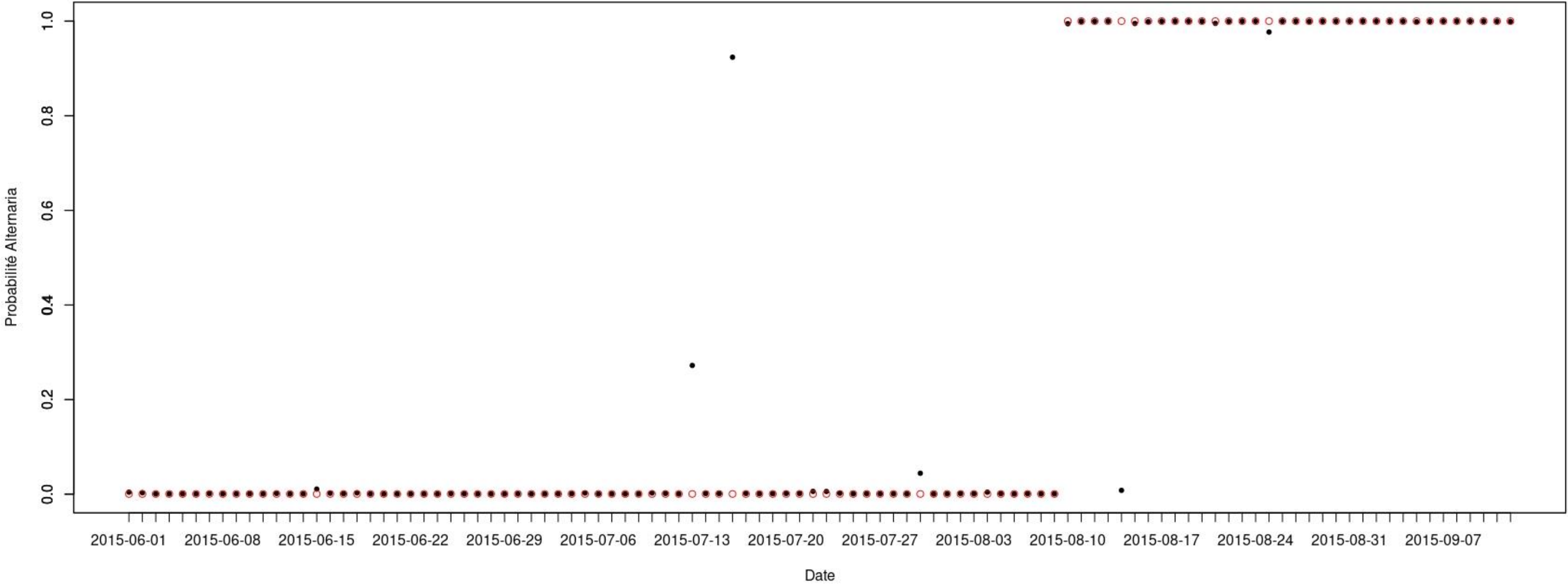
- Predict *Alternaria* appearance in experimental field
- Predict % destruction through time
- Using hourly data and 5 parameters
- AI model : supervised ANN

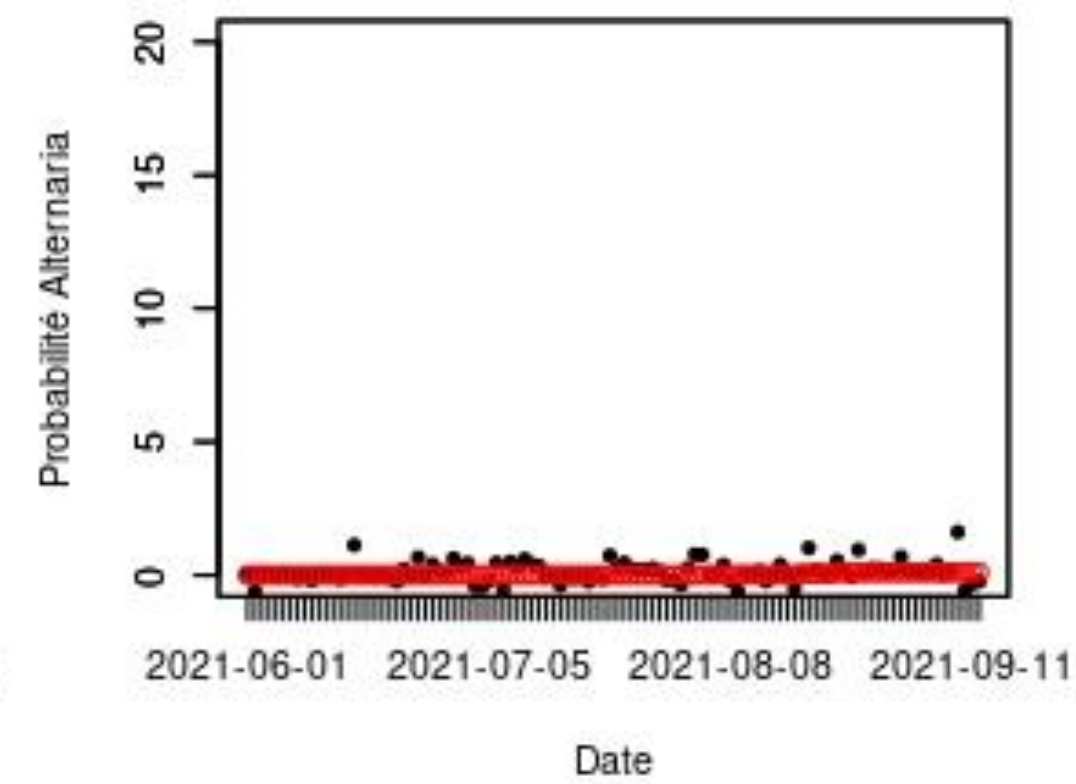
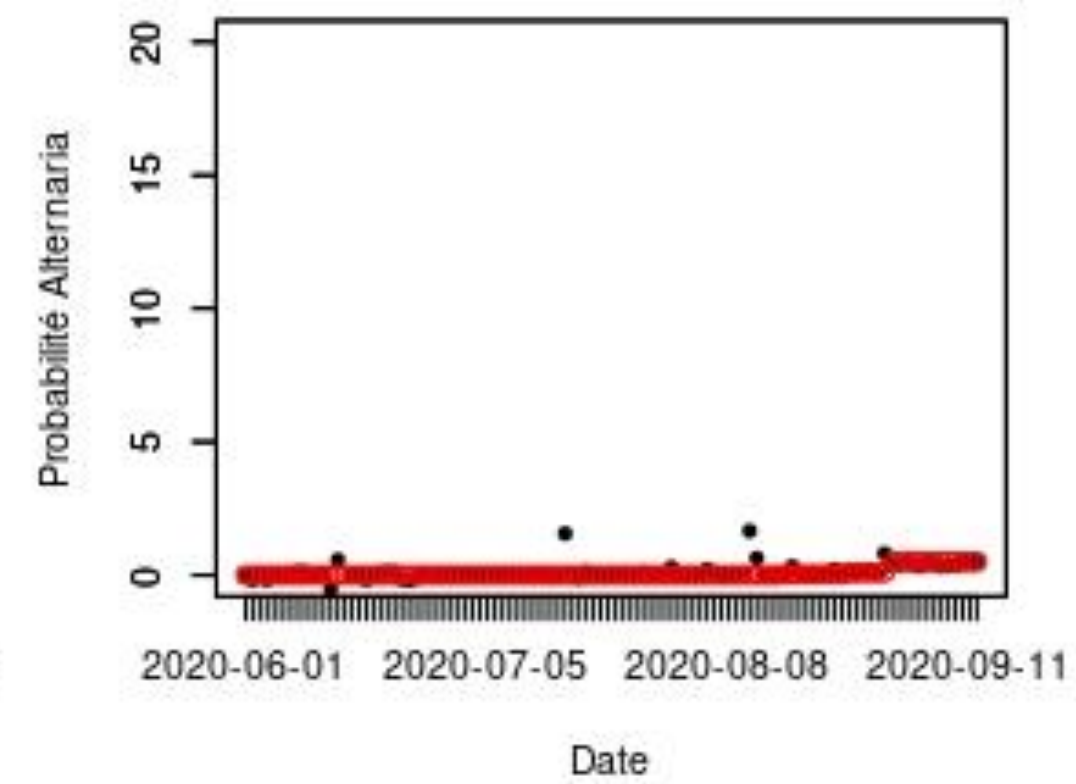
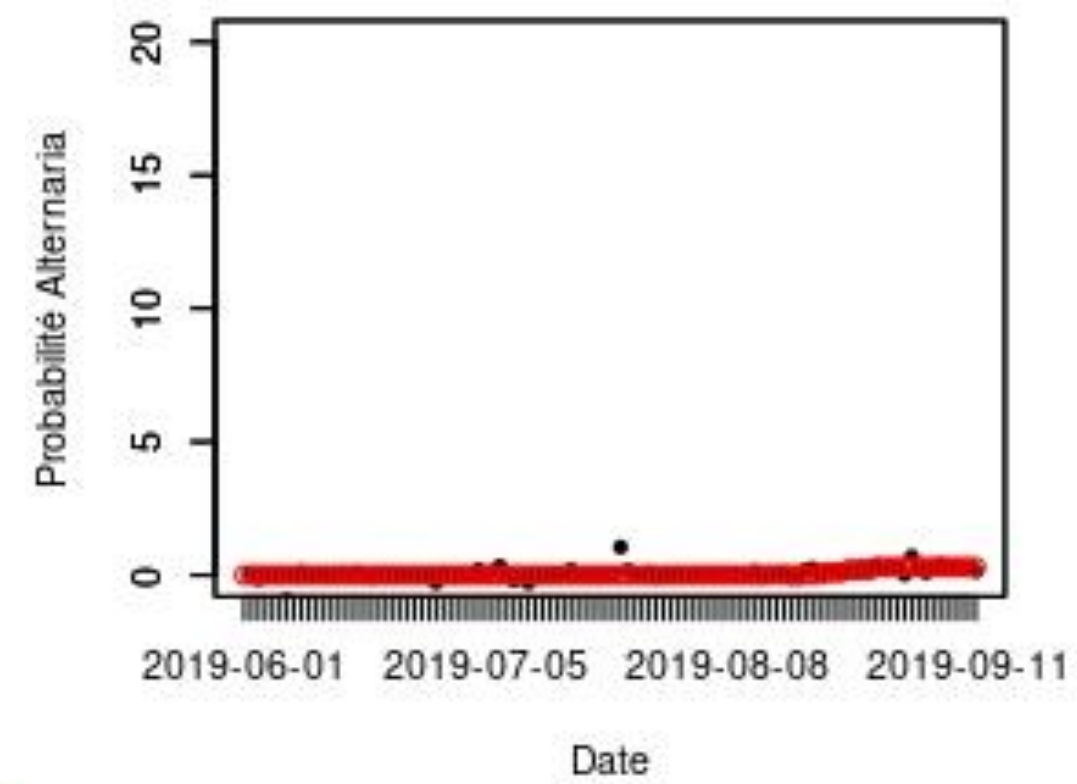
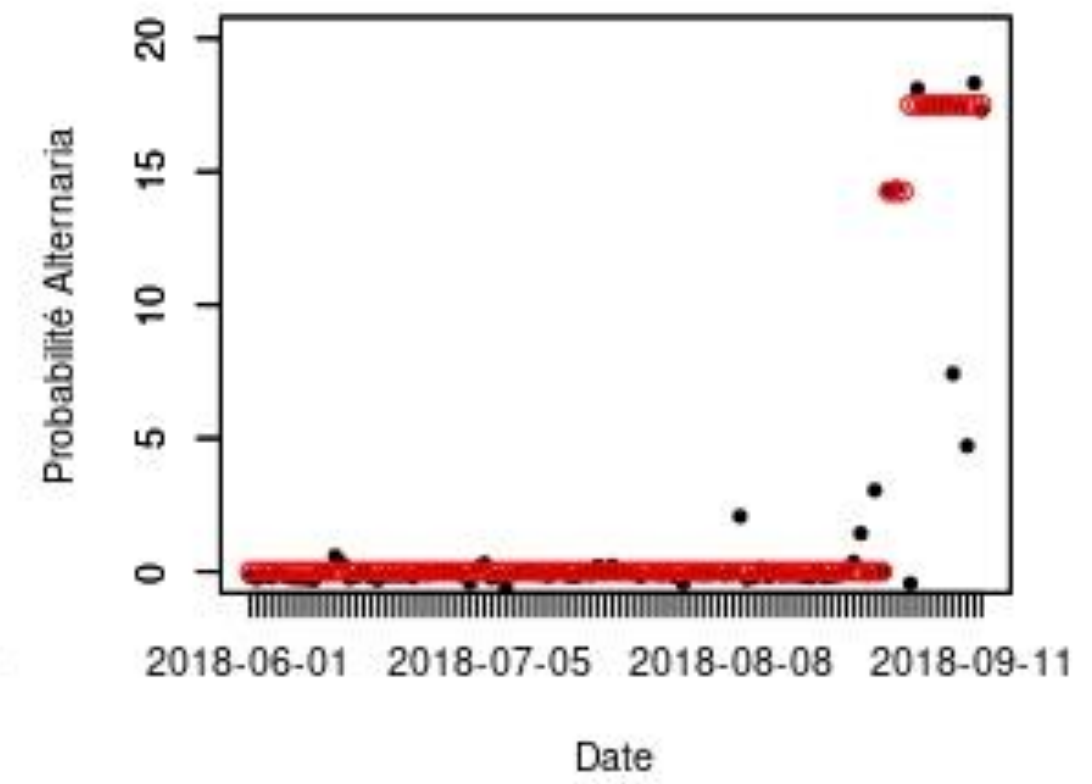
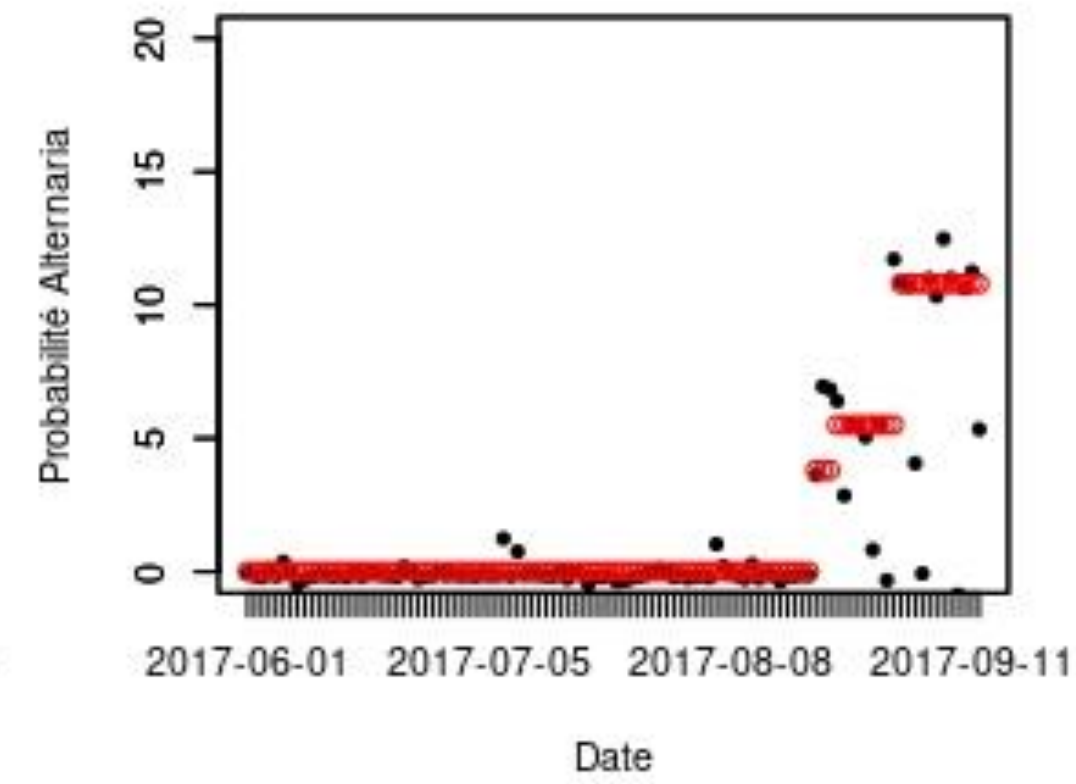
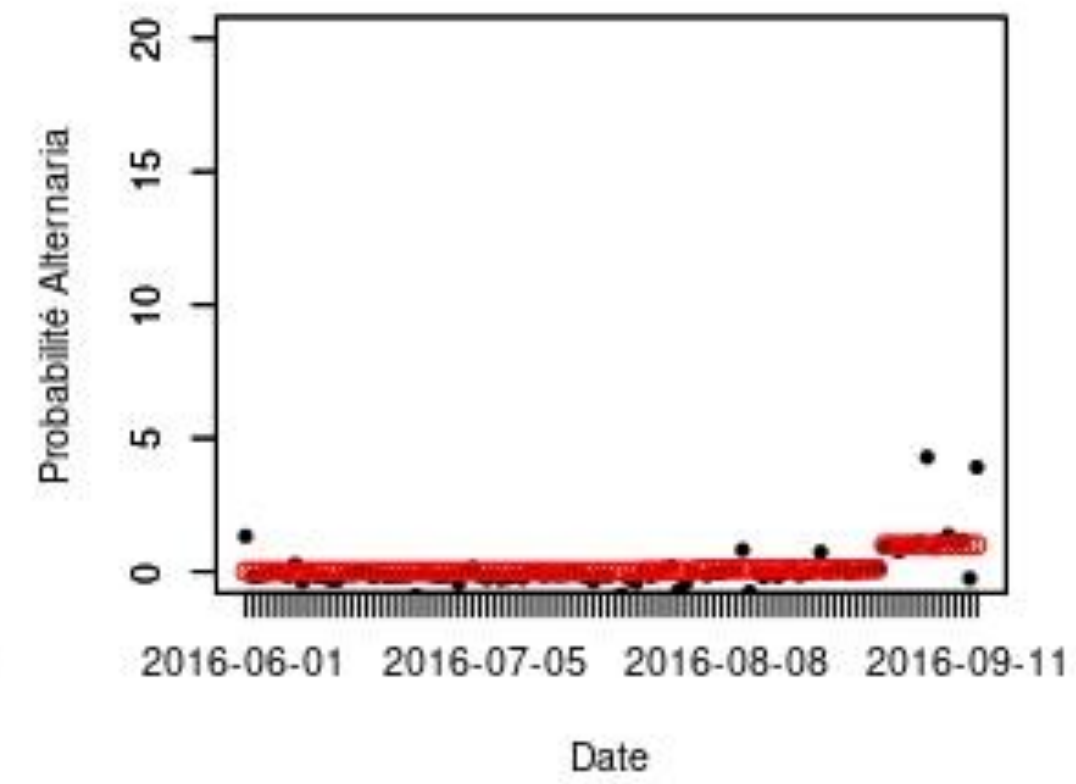
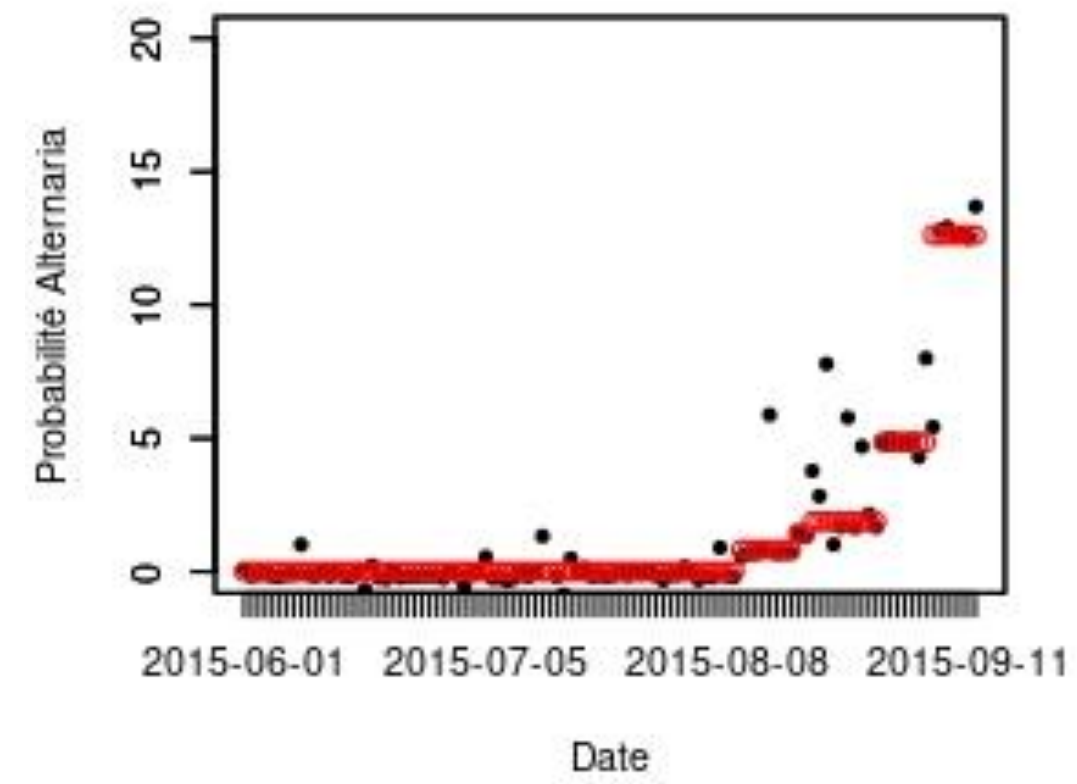


dtype	htime	tsa	ens	plu	hra	hct	Symp	Dest
01/06/2016	00:00	14,8	0,001	0,001	99,3	0,001	0,001	0,001
01/06/2016	01:00	14,7	0,001	0,001	99,3	0,001	0,001	0,001
01/06/2016	02:00	14,4	0,001	0,001	99,3	0,001	0,001	0,001
01/06/2016	03:00	14	0,001	0,001	99,4	40	0,001	0,001
01/06/2016	04:00	13,7	0,001	0,001	99,4	60	0,001	0,001
01/06/2016	05:00	13,8	35	0,001	99,4	25	0,001	0,001
01/06/2016	06:00	13,9	54	0,001	99,3	0,001	0,001	0,001
01/06/2016	07:00	14,1	99	0,001	99,3	0,001	0,001	0,001
01/06/2016	08:00	14,2	93	0,001	99,3	0,001	0,001	0,001
01/06/2016	09:00	14,4	102	0,001	99,3	0,001	0,001	0,001
01/06/2016	10:00	14,7	155	0,001	99,3	0,001	0,001	0,001

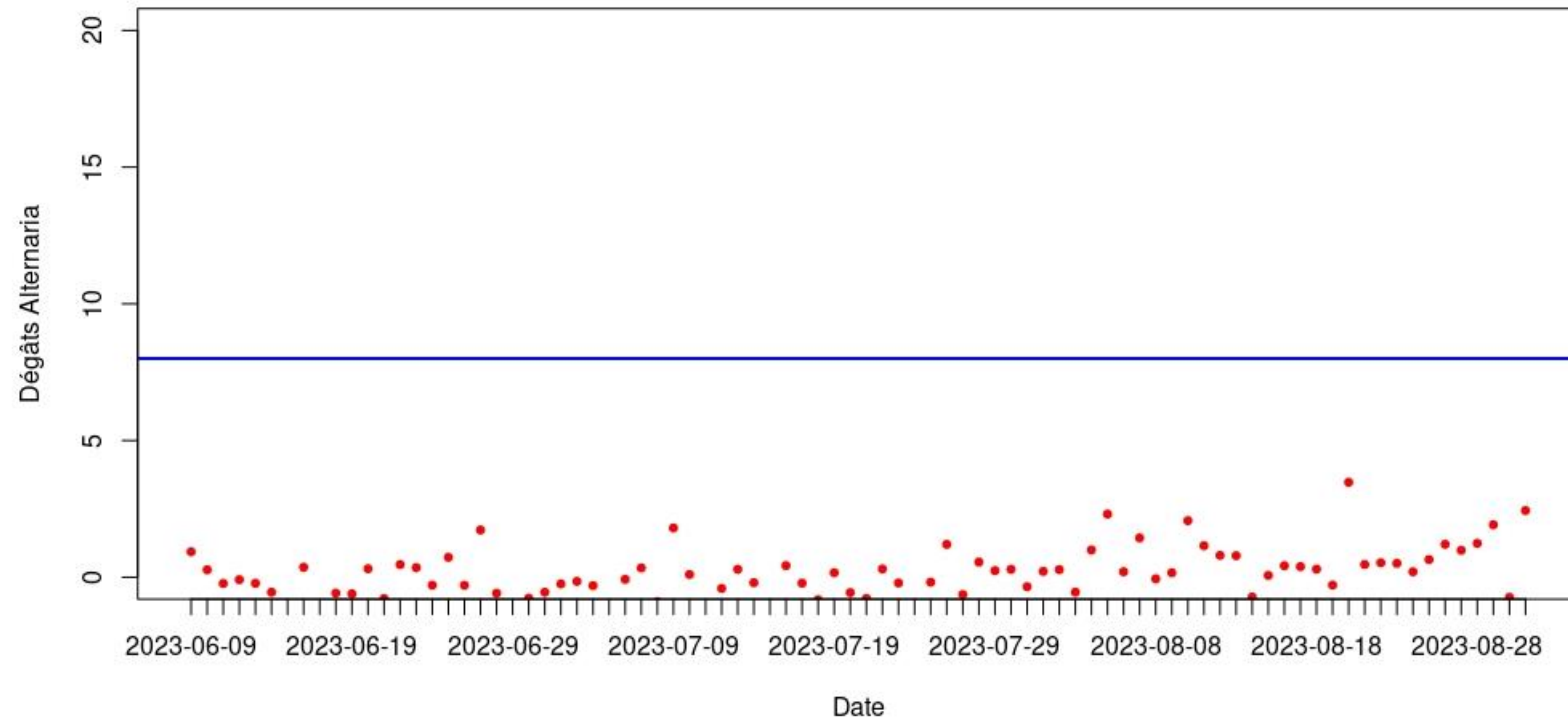
- 3 Layers
- Full connected
- Gliding windows : previous 4 days as inputs
- Delay of 5 days for output
- Supervised learning
- 5 years (2015-21) with contrasted conditions
- 2/3 learning data, 1/3 validation data













HAUTE ÉCOLE
CONDORCET



www.condorcet.be