



www.liendelavigne.org

JOURNÉES ANNUELLES LIEN DE LA VIGNE

VINELINK ANNUAL DAYS

PROGRAMME 2018

**P prédiction, Détection et Prévention des
Risques en Viticulture : Maladies,
Ravageurs et Climat**

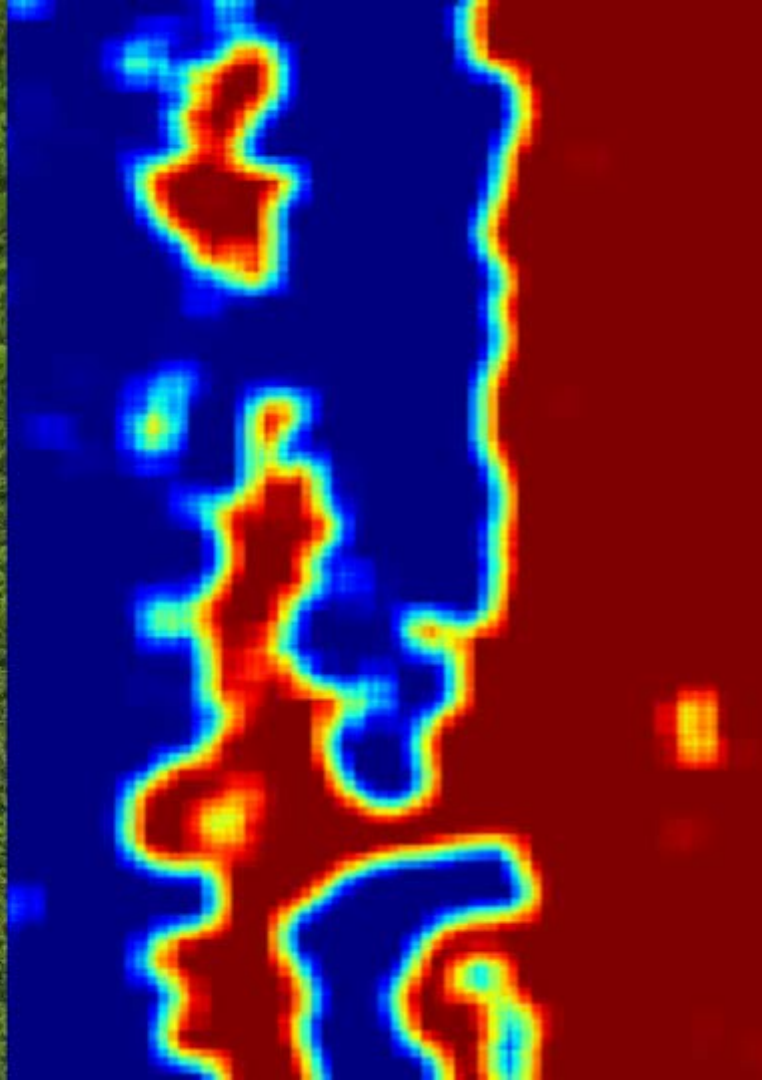
*Predicting, Detecting and Preventing
grapevine risks: Diseases, pests and climate*



**Liens de la vigne
2018**



ARTIFICIAL INTELLIGENCE & VIGNEYARD?



Artificial Intelligence?

Algorithm which mimics cognitive functions that humans associate with other human minds, such as:

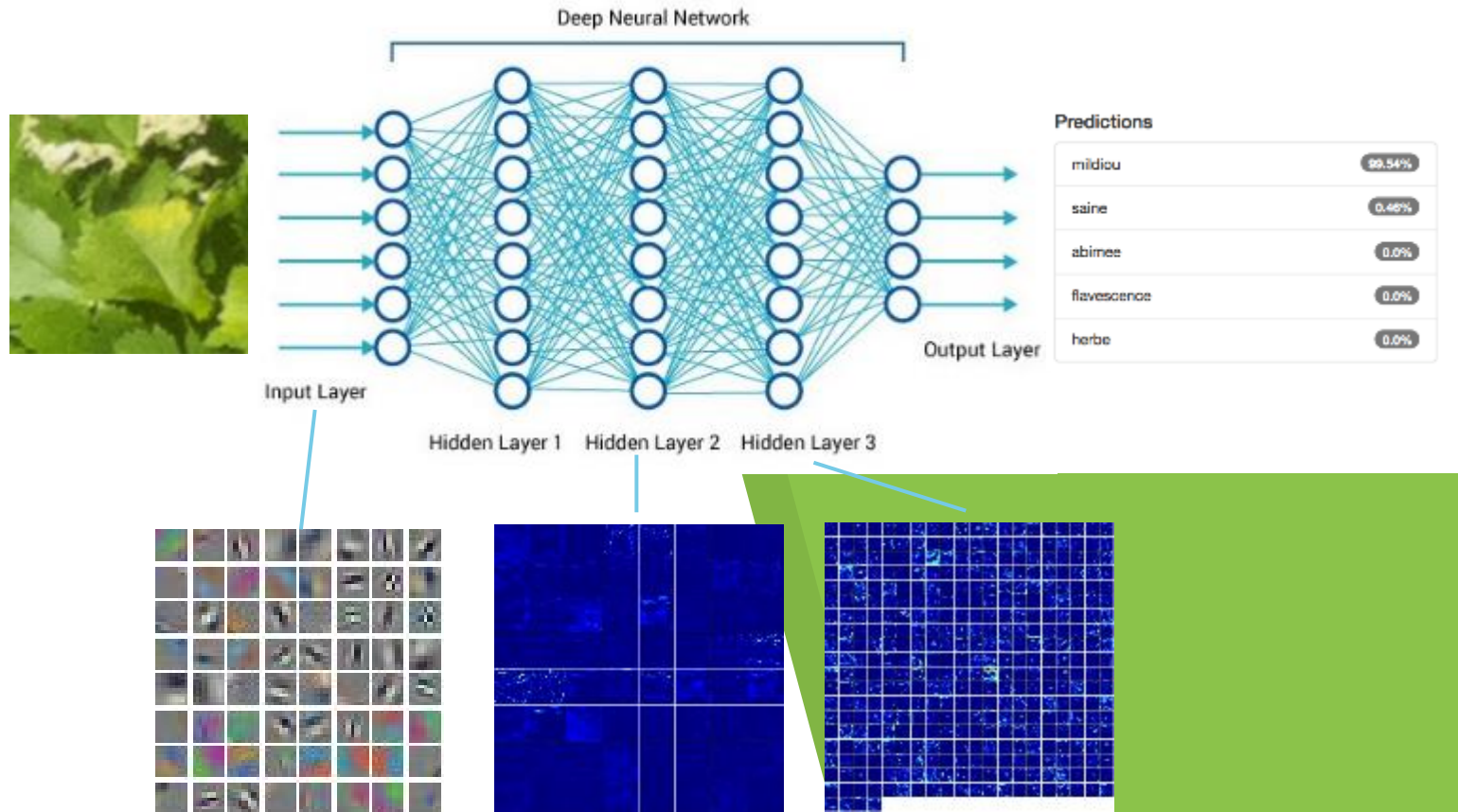


Problem solving



Learning by itself

Artificial Intelligence at Chouette: **Deep Neural Network**





Chouette UAV



RGB Camera
+
NIR Camera



Drone controller
:
Android App

DEEP LEARNING & UAV

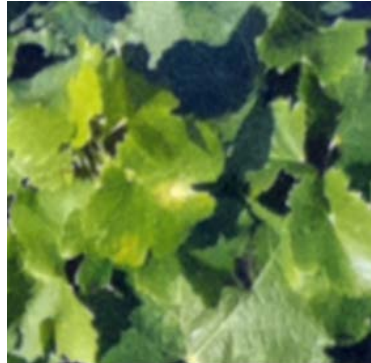
High resolution pictures from vineyard



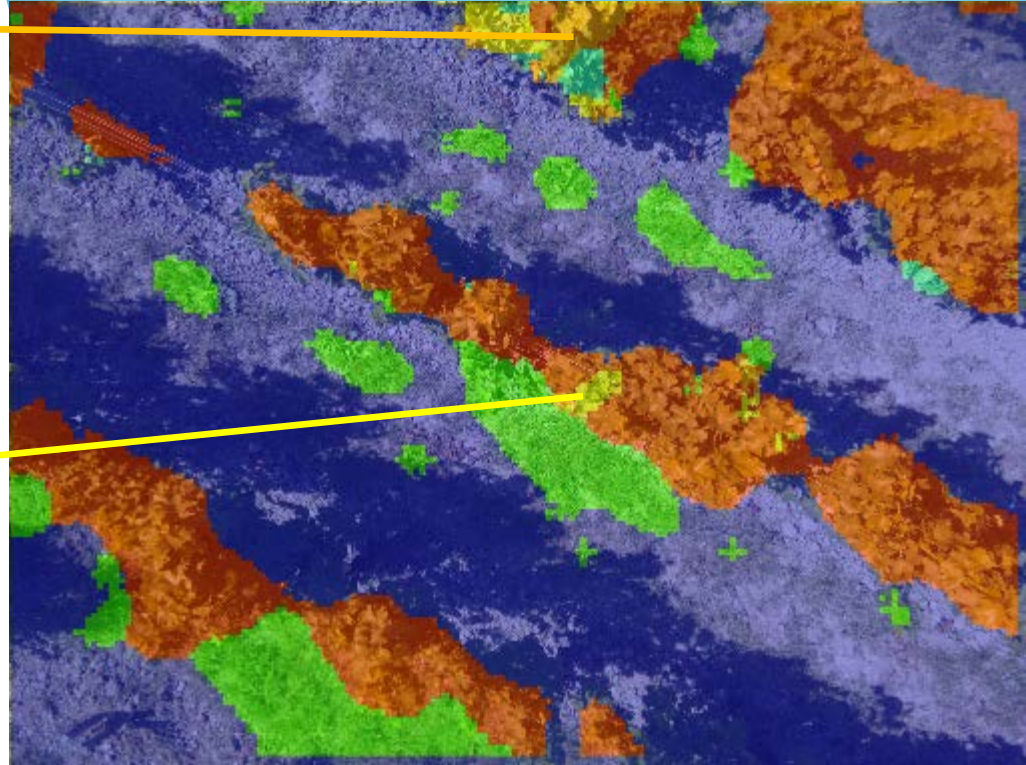
Symptoms classification



Black measles



Downy mildew





AND FOR THE
VINEMAKER

?

A tool to stepfoot into precision viticulture

Precision Nitrogen application

- NDVI indice on vines or grass **through segmentation in images**
- Reveals the heterogeneity of vineyards vigor.



A tool to stepfoot into precision viticulture

Precision Spraying application

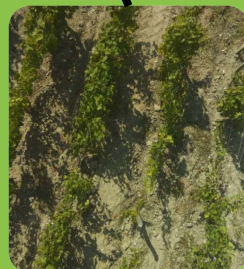
- Measure of the leaf number per square meter in its field of view
- Reveals the heterogeneity of the vegetative expression



PulvéLab



Work with IFV on using Leaf Area Indexes for pesticide dose reduction



A tool to stepfoot into precision viticulture

Downy mildew frequency visualization

- Measure of downy mildew spots frequency on the canopy.
- Understanding the efficiency of spraying management strategy



Work in progress : **Deficiencies**

Locate symptomatic vines



- Geolocation and count of symptomatic (**Tunk** diseases, **Flavescence**) vines detected with AI
- Visualization and conservation of images used for detection
 - Assess efficiency of vineyard virus diseases management
 - Understanding of vineyard virus spreading

Locate symptomatic vines



Recent application for a project with national and regional partners concerning LeafRoll virus

PLAN NATIONAL
DÉPÉRISSEMENT DU VIGNOBLE





chouette

www.chouette.vision

contact@chouette.vision

01.77.12.84.58.