

# VIN Charles

## Developing an intelligent predictor of the brain during anesthesia based on learning and control strategy



CharlesAttend



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### Education

- 22-24 • **Master's Degree in Computer Science - Specialisation Data, Machine Learning, and Knowledge (DAC)**  
*Sorbonne University - Paris*  
Relevant courses:
  - [Signal processing](#) (convolutions, transforms, filtering, sampling)
- 19-22 • **Bachelor's degree with highest honour, Mathematics and Computer Science applied to Cognitive Science**  
*University of Lille*  
Relevant courses:
  - Cognitive science ([neuroscience](#), [EEG operation and usages in psychology](#))

### Experiences

- 23-S2 • **Research project - Explainable insects classification - ISIR - Paris**
  - Development of a convolutional neural network for insect classification.
  - Use of gradient-based approaches and the LIME and SHAP frameworks.
  - [Clean code](#) : Takeover, adaptation and documentation of the project.
  - Experiences monitoring and evaluation of different models with WandB.

[Pytorch](#) [CNN](#) [LIME](#) [SHAP](#) [WandB](#)
- 23-S2 • **Project - Neural Network DIY**
  - Development of a [neural network](#) library entirely in Numpy.
  - Implementation of essential modules (linear layers, 1D convolutions, etc.) for creating, training and evaluating neural networks.
  - [Clean code](#) : Performance optimization through advanced use of Numpy for efficient computation.

[Python](#) [Numpy](#)
- 22 Summer • **Internship – Filboost & SCALab Laboratory - Lille**
  - [Processed raw EMG/ECG signals](#) and experimental task data.
  - Employed data visualization techniques.
  - Utilized statistical tests to uncover experimental group differences.
  - Delivered presentations and reports to communicate findings effectively.

[Pandas](#) [Seaborn](#) [Signal processing](#) [Statistical tests](#)

### Skills

#### Computer Science:

- (Arch) [Linux](#)
- Organization: Notion
- [Web front-end](#) (React, Svelte)
- Office, Photoshop, Premiere/After Effect
- LaTeX, [Git](#)

#### Data Science: *everything realized with Python*

- ML: SVM, Neural Networks, Gaussian process, Unsupervised method, Bayesian network, Decision tree
- Image: Image Classification, Vision Transformers, GANs, Segmentation & Detection, Diffusion models

### Miscellaneous

- DIY Project: portable smart TV, smart plant, portable secondary monitor, 3D-Print, ...
- Plants, gardening et independent living.
- Volunteer work: Electronic music festivals and Parties.
- Sport: running, climbing, bivouac.
- Cooking: meal prepping & home cooking.
- Seasonal jobs
- References on request
- English C1 : 2022 - TOEIC - 955/990

More information on my [website](#)