

Charles Verstraete

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Scientific Experiences

- 2022 - Present** **Decision-making in volatile and uncertain environment**
Intracranial electrophysiology recording in human brain during a modified Wisconsin sorting task. Developed data analysis pipelines using Python, Julia and MATLAB.
Institut de neuromodulation, Paris
- 2022** **Anatomo-functional organisation of the frontal operculum**
Functional connectivity analysis of frontal operculum subdivisions in human resting-state fMRI using clustering. Created a Python toolbox for clustering and analyzing functional connectivity.
Stem-cell and brain research institute, Lyon
- 2021** ***C. Elegans* foraging modelisation**
Estimating *C. Elegans* foraging behaviour based on Weber's law and Fick's equation using computational simulations. Implemented models in Python.
Centre de Recherches sur la Cognition Animale, Toulouse
- 2020** **Generative adversarial network for maximizing neuronal response**
State of the art of generative models for stimulus creation maximizing neuronal activity.
Institut des Maladies Neurodégénératives, Bordeaux

Publications

Journals

A revised perspective on the evolution of the lateral frontal cortex in primates - *Science Advance*, 2023. Amiez, C., Sallet, J., Giacometti, C., **Verstraete, C.**, Gandaux, C., Morel-Latour, V., Meguerditchian, A., Hadj-Bouziane, F., Ben Hamed, S., Hopkins, W. D., Procyk, E., Wilson, C. R. E., & Petrides, M.

The relevance of the unique anatomy of the human prefrontal operculum to the emergence of speech - *Communications Biology*, 2023. Amiez, C., **Verstraete, C.**, Sallet, J., Hadj-Bouziane, F., Ben Hamed, S., Meguerditchian, A., Procyk, E., Wilson, C. R. E., Petrides, M., Sherwood, C. C., & Hopkins, W. D.

Posters

The prefrontal operculum: a critical hub for speech? - *Neurofrance*, Lyon, 2023.

Anterior insular lesion disrupts adaptation to negative outcomes - *Symposium on Biology of Decision Making*, Paris, 2023.

Talk

The prefrontal operculum: a critical hub for speech? - *Colloque des jeunes chercheurs en sciences cognitives*, Paris, 2022.

Education

2022 - Present	PhD in Neuroscience Sorbonne University, Paris
2020 - 2022	Master in Neuroscience Toulouse III University, Toulouse
2019 - 2020	First year of Master's in Cognitive Sciences University of Bordeaux, Bordeaux
2018 - 2019	B.A in Mathematics and Informatics applied to Cognitive Sciences University of Bordeaux, Bordeaux
2014 - 2016	Pre-engineer class, major in Mathematics, minor in Informatics EISTI, Pau

Teaching

2020 - 2021	Tutoring for undergraduate program CNAM, Toulouse
2018 - 2021	Tutoring in mathematics, bachelor's degree Université Toulouse III, Toulouse Université de Bordeaux, Bordeaux

Skills

Programming Languages & Tools:

- Python, MATLAB, R, C++
- TensorFlow, PyTorch, scikit-learn
- fMRI data processing, statistical modeling
- Git, Linux, Docker

Experiences & Sports:

- Barman/Serveur - 8 saisons à Arcachon
- Basket-Ball en équipe depuis 2008