

# Basile Garcia

PHD STUDENT

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## Education

### Ph.D in Computational neuroscience

Paris, France

ÉCOLE NORMALE SUPÉRIEURE (LNC<sup>2</sup> - IJN)

Since 2018

- Under the supervision of **Stefano Palminteri** and **Sacha Bourgeois-Gironde**

My Ph.D thesis consists in the study of human reinforcement learning through behavioral experiments and computational modeling. More specifically, I am interested in the acquisition and comparison of different kind of subjective values, namely these acquired from experience (via trial-and-error) and description (via semantic information). Common currency theory posits that orderly choice is only possible through the mapping of different option values on a common scale. A subsequent question is thus whether these values of different nature are commensurable, and if so, what is the decision and valuation process allowing such a comparison.

### M.Sc in Cognitive science

Bordeaux, France

UNIVERSITÉ DE BORDEAUX

2016 - 2018

- 3 months internship under the supervision of **Sacha Bourgeois-Gironde**

Study of money emergence using multi-agent simulations and behavioral experiments. We show that learning using a simple reinforcement learning mechanism is a sufficient condition for a commodity money to emerge.

- 6 months internship under the supervision of **Nicolas Rougier**.

Study of strategies deployed by firms in theoretical duopoly situations through online behavioral experiments. We show that subjects rely on heuristics rather than complex learning mechanisms and decision rules.

### B.Sc in Psychology

Bordeaux, France

UNIVERSITÉ DE BORDEAUX

2013 - 2016

## Publications

- 2021 **The description–experience gap: a challenge for the neuroeconomics of decision-making under uncertainty**, Garcia, B., Cerrotti, F., Palminteri, S., [Philosophical Transactions of the Royal Society B](#)
- 2019 **Coordination over a unique medium of exchange under information scarcity**, Nioche, A.\*, Garcia, B.\*, Lefebvre, G., Boraud, T., Rougier, N. P., Bourgeois-Gironde, S., [Humanities and Social Sciences Communications - Nature](#)
- 2019 **Interaction effects between consumer information and firms' decision rules in a duopoly: how cognitive features can impact market dynamics**, Nioche, A.\*, Garcia, B.\*, Boraud, T., Rougier, N. P., Bourgeois-Gironde, S., [Humanities and Social Sciences Communications - Nature](#)

## Communications

### CONFERENCE POSTERS

- 2021 Subjective Probability, Utility and Decision Making [Online](#)
- 2021 Neurofrance [Online](#)
- 2019 Fourth Quadrennial Meeting on OFC Function [Paris, France](#)
- 2019 Doctoral days, Ecole Cerveau Cognition et Comportements [Paris, France](#)

### SCIENCE POPULARIZATION

- 2019 Cog'Innov & Monocyte Edition collaboration, \*Bavard S, \*Garcia B. Les illusions économiques. [Paris, France](#)
- 2018 Organization of the Mindlab association's hackaton. [Bordeaux, France](#)

## Skills

- Programming** Python, Matlab, R, C#, Javascript, HTML, CSS,  $\text{\LaTeX}$
- Frameworks** Django (back-end python web framework), Unity3d (game engine)
- Languages** French (native speaker), English (C1), Spanish (B2)