

MATEO MAHAUT

PHD STUDENT - UPF



PERSONAL DETAILS

French / Swiss
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SKILLS

LLM PyTorch, fine-tuning,
Reinforcement Learning, Matlab,
Genetic Algorithms, Multi-Agent
systems, Software Engineering
Data Analysis : Python, R
(statistics, linear algebra), SQL
Communication : Adobe
Premiere Pro, Statistical results
with matplotlib, or seaborn.

COMMITMENT

- AISTATS & Neurips & Neurips
workshop reviewer
- Elected Member Arts
Association
- Founding Member student
engineering newspaper
- PSC1 - first level course to
provide first aid

INTERESTS

- 10 year Aikido practice
- English Literature
- 10 year piano practice, Jazz

EDUCATION

2022-2026 : PhD - **Universitat Pompeu Fabra**

'Scaling emergent communication to realistic deep network communities and tasks' supervised by
Marco Baroni. Emergent communication, Interpretability, Multi-Agent Reinforcement learning

2018-2021 : **National School of Cognitive Technologies**, (ENSC, Bordeaux INP)

Engineering, with specialisation in Artificial intelligence, Human cognition, Human-System
Interactions, Project management.

INTERNSHIP EXPERIENCE



Research Intern | LLM team AWS - September 2023 to January 2024

- Study of factual confidence and uncertainty quantification metrics in LLMs, and their
consistency. Accepted at ACL 2024



Research Intern | FLOWERS team INRIA - February to August 2021

- Ecologically inspired study of communication between reinforcement learning agents
to improve performance on hierarchical tasks. PNAS paper under review.

PUBLICATIONS

- Mahaut, M., Aina, L., Czarnecka, P., Hardalov, M., Müller, T., Marquez, L.(2024). **Factual Confidence of LLMs: on Reliability and Robustness of Current Estimators**. Accepted at ACL.
- Lambert, N., Roquet, D., Mahaut, M., Bitouze, N., Chételat, G., Elmoata, A.(2024). **Convolutional Neural Network Application for Brain PET Image Translation to Support Alzheimer's Disease Diagnosis**. Accepted at ICGP.
- Mahaut, M., Franzon, F., Dessì, R., & Baroni, M. (2023). **Referential communication in heterogeneous communities of pre-trained visual deep networks**. ArXiv:2302.08913 [Cs]. <https://arxiv.org/abs/2302.08913>
- Nisioti, E., Mahaut, M., Oudeyer, P.-Y., Momennejad, I., & Moulin-Frier, C. (2022). **Social Network Structure Shapes Innovation: Experience-sharing in RL with SAPIENS**. ArXiv:2206.05060 [Cs]. <https://arxiv.org/abs/2206.05060>
- Prébot, Baptiste, Caroline Cavel, Laetitia Calice, Mateo Mahaut, Adrien Leduque, and Jean-Marc Salotti. **Team performance analysis of a collaborative spatial orientation mission in mars analogue environment**. The International Astronautical Congress, 2019, 7.

REFERENCES

LANGUAGES

French, English, Spanish

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