

# CARAMIAUX Baptiste

CNRS advanced researcher

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## Positions

- **Advanced Research Scientist** (since 2020)  
*CNRS - ISIR, Sorbonne Université, France*
- **Research Scientist CNRS** (2017-2020)  
*CNRS - LISN, Université Paris-Saclay*
- **AI Consultant, Mogeess Ltd.** (2017-2022)  
*London, United Kingdom*
- **Marie Skłodowska-Curie Fellow** (2016 – 2018)  
*McGill University, Psychology Department, Montréal and IRCAM Centre Pompidou, Paris, France*
- **Senior AI Researcher, Mogeess Ltd.** (2015)  
*London, United Kingdom*
- **Post-doctoral researcher** (2012 – 2015)  
*Goldsmiths College, University of London, United Kingdom*

## Education

- **HDR (Habilitation to Direct Research) in Computer Science** (2023)  
*Université Paris-Saclay, France*
- **PhD in Computer Music** (2012)  
*Sorbonne Université & Ircam Centre Pompidou, Paris, France*
- **MSc in Computer Music** (2008)  
*Sorbonne Université, Ircam Centre Pompidou, Telecom ParisTech*
- **MSc in Applied Mathematics** (2007)  
*Grenoble Institute of Technology (INPG) and Université Joseph-Fourier, Grenoble, France*

## Funding

- **Doctoral funding from PEPR eSEMBLE** – 2023 – 100k€ – “*Collaborative Human-centered Machine Learning for Archival Practice: Enhancing Accessibility, Transmission, and Curation*”
- **Institute for Engineering and Health at Sorbonne Université** – 2021 – 75k€ – “*Spiropathies: An intelligent system for breathing care*”
- **French Agency for Research Project** – coordinator – 2020/2023 – 300k€ (rate 15,6%) – “*ARCOL: Interactive Reinforcement Co-Learning*”
- **Phares Art & Science Project 2019, La Diagonale Université Paris-Saclay** – coordinator – 2019/2020 – 15k€ – “*Humane Methods*”
- **French Agency for Research Project** – PI for LISN – 2018/2021 – 600k€ (rate 14%) – “*ELEMENT: Enabling Learnability in Embodied Interaction*”
- **PEPS CNRS S2IH** (exploratory research) – coordinator – 2018 – 13k€. (rate 19%) – “*INTACT: Human-AI Interaction in Creativity*”
- **H2020 Marie Skłodowska-Curie (Global Fellowship)** – coordinator – 2016/2018 – 232k€. – “*MIM: Enhancing Motion Interaction through Music Performance*”

## Awards

- **Best Paper Award** at ACM IUI 2022
- **Best Paper Honorable Mention Award** at ACM CHI 2022, ACM CSCW 2021, ACM DIS 2012
- **Ars Electronica Distinction Award for Corpus Nil** (in collaboration with Marco Donnarumma)
- **Young Research Prize in Science and Music 2014**, by IRISA à Rennes, AFIHM and Foundation Rennes 1

## Supervision

### Post-docs

- **Théo Jourdan** (2022-2023), on « *Interactive Machine Teaching for Inclusive Musical Practice* »
- **Hugo Scurto** (2021-2021), on « *Intelligent systems for breathing care* »
- **Antoine Loriette** (2020-2021), on « *Interactive reinforcement learning in the context of motor skill acquisition* »

### PhDs

- **Lenny Martinez** (2023 – now) - “*Collaborative Human-centered Machine Learning for Archival Practice*”
- **Behnoosh Mohammadzadeh** (2022 – now) - “*Collaborative Interactive Machine Learning*”
- **Vaynee Sungeelee** (2021 – now) - “*Interactive reinforcement co-learning*”
- **Oleksandra Vereschak** (2019 – 2022) - “*Investigating Trust in AI-assisted Decision Making*”
- **Téo Sanchez** (2018 – 2022) “*Interactive Machine Teaching for and with Novices*”
- **Miguel Renom** (2018 – 2022) - “*Principles of Human-Computer Interaction*”
- **Jean-Philippe Rivière** (2017 – 2020) - “*Human-Machine Partnership in Skill Acquisition*”

### MSc and BSc/BAs

- Valentine Le Lourec, Science Po and ENS Ulm, (2023 – now, 9 months)
- Katerina Batziakoudi, Université Paris-Saclay (2022, 6 months)
- Behnoosh Mohammadzadeh, Université Paris-Saclay (2022, 6 months)
- Léo Chédin, ENS Paris-Saclay (2022, 5 months)
- Dylan Fluzin, ENS Paris-Saclay (2022, 5 months)
- Pierre Thiel, Sorbonne Université (2021, 5 months)
- Yuan He, Université Paris-Saclay (2020, 4 months)
- Wissam Akretche, Sorbonne Université (2020, 5 months)
- Siba Siddique, Université Paris-Saclay (2019, 5 months)
- Téo Sanchez, Sorbonne Université, ATIAM, (2018, 5 months)
- Travis West, McGill University, Music, (2018 – 2019)
- Jean-Philippe Rivière, ENAC, (2017, 5 months)
- Adrian Petterson, McGill University, Psychology (2017, 3 months)
- Benjamin Muzart, Université Joseph Fourier, (2017, 5 months)
- Alejandro Van Sandtz-Escobar, Princeton, CS (2014, 4 months)
- Eliza Pedrozo, Goldsmiths, CS, (2014, 3 months)
- Igor Correia, Goldsmiths, CS, (2013, 4 months)
- Tom Rushmore, Goldsmiths, CS (2013, 4 months)
- Jules Françoise, UPMC, ATIAM, (2011, 5 months)
- Aymeric Masurelle, UPMC, ATIAM, (2011, 5 months)

## Committees

### Consulting, Expertise

- **Representative of the CNRS for the European partnership in AI, Data and Robotics (2022-now)**
- Member of the Interdisciplinary Assessment Board for interdisciplinary research programme in Artificial Intelligence, **Government of Spain (2023)**
- Member of the **Scientific board** of the COMO-Vox project, Radio France and French Minister of Education
- Member of the **Advisory Board of the DG CNECT** (European Commission) tender on “*Study Opportunities and Challenges of Artificial Intelligence Technologies for the Cultural and Creative Sectors*” 2021
- Expert for the **European Parliament on the use of AI** in the Cultural and Creative Sectors (2020)
- **Consultant in AI research** Mogeas Ltd. (2017-2022)

### Editor and program committees

- Editor for the Special Issue of ACM TOCHI “*Data/Algorithms/Models: Prototyping with Uncertainty in Research through Design*” (2022)
- Associate Editor at ACM TOCHI (Transactions on Computer-Human Interaction) (since 2019)
- Associate Editor at PloS ONE (since 2018)
- Member of the program committee of: IJCAI 2022, MOCO (2017-2020) ACM CHI 2017 (*Interaction Techniques, Devices, and Modalities*), NIME (2015-2017, 2021)

- Program chair for: the French Conference on Human-Computer Interaction (IHM 2024), the New Interfaces for Musical Expression (NIME) conference 2014

### Reviewing

- **European Research Council (ERC)**
- **French Agency for Research (ANR)**
- Swiss National Science Foundation
- Many journals and conferences in HCI, Psychology and Applied Machine Learning

### Publications (selection)

Selection of my publications and writings, more on my [Google Scholar](#) profile page.

#### AI & Interaction

- Scurto, H., Similowski, T., Bianchini, S. and Caramiaux, B (2023, in press). **Probing Generative Deep Learning for Respiratory Care**. *Proceedings of the ACM on Human-Computer Interaction (CSCW)*.
- Sanchez, T., Caramiaux, B., Thiel, P., and Mackay, W. E. (2022). **Deep learning uncertainty in machine teaching**. In *27th International Conference on Intelligent User Interfaces (IUI)*, pages 173–190.
- Vereschak, O., Bailly, G., and Caramiaux, B. (2021). **How to evaluate trust in AI-assisted decision making? a survey of empirical methodologies**. *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCW2):1–39
- Françoise, J., Caramiaux, B., and Sanchez, T. (2021). **Marcelle: Composing interactive machine learning workflows and interfaces**. In *The 34th Annual ACM Symposium on User Interface Software and Technology (UIST)*, pp 39–53
- Scurto, H., Van Kerrebroeck, B., Caramiaux, B., Bevilacqua, F. **Designing Deep Reinforcement Learning for Human Parameter Exploration**. *ACM Transactions on Computer-Human Interaction*, 28(1), 1-35, 2021
- Caramiaux, B., Donnarumma, M. (2020). **Artificial Intelligence in Music and Performance: A Subjective Art-Research Inquiry**. *Handbook of Artificial Intelligence for Music*, pages 75–95. Springer. 2020
- Sanchez, T., Caramiaux B., Françoise, J., Bevilacqua, F., Mackay, W. **How do People Train a Machine? Strategies and (Mis)Understandings?** In *ACM CSCW 2021*

#### AI & Society

- Caramiaux, B. (2023). **AI with Museums and Cultural Heritage**. *Conference Proceedings of the Conference on Cultures of AI* (in press)
- Caramiaux, B. **Machine Learning in Interaction**. *HDR, Université Paris-Saclay*. 2023
- Caramiaux, B. and Fdili Alaoui, S. (2022). **“Explorers of unknown planets”: Practices and politics of artificial intelligence in visual arts**. *Proceedings of the ACM on Human-Computer Interaction (CSCW)*.
- Caramiaux, B. (2020) **The use of AI in the Cultural and Creative Sectors**. *White Paper for the European Parliament*.
- Caramiaux, B., et al. (2019) **AI in the Media and Creative Industries**. *White Paper for the NEM Initiative*.

#### AI & Science

- Lorette, A., Liu, W., Caramiaux, B., Bevilacqua, F. (2023) **Describing movement learning using metric learning**. *PLoS One*.
- Thoret, E., Caramiaux, B., Depalle, P., and McAdams, S. (2021) **Learning metrics on spectrotemporal modulations reveals the perception of musical instrument timbre**. *Nature Human Behavior*, 1-9,

### Software

#### Marcelle

The **Marcelle library** makes it possible to easily create Machine Learning pipelines and interfaces for applications running in the browser. Interfaces can be configured for users with various skills and adapted to the context of use (end-users, expert domains, ML experts, etc.). The library is made to be compatible with Python-based pipeline using TensorFlow or Pytorch (through ONNX).

The Marcelle library is distributed under the MIT licence.

Website: <https://marcelle.dev>

## Presentations (selection)

- **EU Project MESOC** final event – keynote – “*AI in the Cultural and Creative Sectors*”
- **Cultures of Artificial Intelligence**, Karlsruhe (12/2022) <https://www.landesmuseum.de/en/conference-ai-2022>
- **Collège de France** (24/05/2022) – “*Rethinking interaction with machine learning*” <https://www.college-de-france.fr/agenda/colloque/human-computer-partnerships/rethinking-interaction-with-machine-learning>
- Invited seminar at Naver Labs Europe (29/09/2022) – “Rethinking interaction with machine learning”
- IA and Creativity organized by AFIA (7/04/2022) – “*Repenser l’Interaction avec les Technologies d’Apprentissage*”
- Cognitive Informatics Seminars, UQAM (03/11/2022) – “Rethinking interaction with machine learning”
- French HCI-AI days (11/03/2021) “*Co-Adaptation Humain-Machine*”

## Artistic projects

- **Humane Methods** – Theatre performance by Marco Donnarumma and Margherita Pevere, 2019-2022
- **Corpus Nil** - Musical performance by Marco Donnarumma, 2015-17
- **Septic v1.1** - Installation designed and created with Marco Donnarumma (Oddstream Festival), 2016
- **Septic v1.0** - Installation designed and created with Marco Donnarumma (Transmediale), 2014
- **A Light Touch II** - Installation with Sarah Fdili Alaoui (Printemps de la Culture), 2012

## Organization

- Research seminar (part of the ARCOL project) – **Cultures of Technology** – May 15, 2023, <https://arcol.isir.upmc.fr/2023/04/20/conference-cultures-of-technology/>
- ELEMENT research workshop October 13-14, 2022 <https://element-project.ircam.fr/events/workshop-2022>
- ELEMENT research workshop, Ircam, 11/2019 <https://element-project.ircam.fr/events/workshop-2019>
- Special session on **AI in the Media and Creative Industries** at the NEM General Assembly (New European Media initiative), May 2019
- HCI-AI Days, Telecom ParisTech, 03/19. <https://ihmia.afihm.org/>
- Human-Machine Collaboration workshop, Ircam, 07/18 <http://mim.ircam.fr/hamac/>
- Skill Acquisition and Technology workshop at the NIME conference, 05/17.
- Human-Centred Machine Learning workshop at ACM CHI 2016