Téo Sanchez

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🔍 Academic interests

Interactive Machine Learning	How to design systems that improves people's agency on machine learning models? In particular, how can we design ML systems in which humans are a collaborative partner both in generating the knowledge data of interest and in using model's predictions.
Human-centered AI	Understanding human-AI interaction as a language and a phenomenon: How to design meaningful interactions between humans and AI systems? How humans behave and reason when interacting with AI systems?
Community of practice and collaborative work with IA	What are emergent and collective practices around AI? How to design AI systems that support and foster these practices?

🏛 Research experiences

19/09/2022 to 10/01/2023	**Invited researcher in SELAS Studio** *Examining the Text-to-Image Community of Practice: Why and How do People Prompt Generative AIs?* SELAS Studio, Bourse BPI Deep Tech
01/09/2018 to 31/08/2022	**Contractual doctoral student in Inria and Université Paris Saclay** *Interactive Machine Teaching for and with novices* supervised by Wendy Mackay and Baptiste Caramiaux Interdisciplinary Laboratory of Digital Sciences (LISN), ExSitu team
01/09/2018 to 31/08/2022	**Member of the ELEMENT project from the National Research Agency (ANR)** **E**nabling **L**earnability in **E**mbodied **M**ovem**ent** Interaction Institute for Research and Coordination in Acoustics/Music (IRCAM) LISN, ExSitu
19/02/2018 to 27/07/2017	**Research intern in LISN, Université Paris Saclay** *Active Learning for Supporting Movement-based Creative Interaction* Supervised by Baptiste Caramiaux LISN, ExSitu
01/06/2017 to 31/07/2017	**Research intern in Jean Le Rond D'Alembert Institute, Sorbonne Université** *Study of the attack and release of sung notes for vocal synthesis* Supervised by Christophe D'Alessandro, Boris Doval

01/06/2017 to 31/07/2017	**Research intern in Jean Le Rond D'Alembert Institute, Sorbonne Université** *Computational and historical analysis of piano performance* Supervised by Benoît Fabre
01/02/2015 to 31/07/2015	**Research intern in the Computational Biology and Drug Design Group, University of Barcelona** *Simulating Tryptophan Fluorescence in protein using a QM/MMpol approach* Supervised by Carles Curutchet

🎓 Education

01/09/2018 to 20/06/2022	**Ph.D. in Computer Science** Université Paris Saclay and Inria, France *Interactive Machine Teaching for and with novices* **successfully defended on 20/06/2022**
01/09/2016 to 31/08/2018	**MSc, Acoustic, Signal Processing, Computer Science, applied to Music** Sorbonne Université, Telecom ParisTech and IRCAM Centre Pompidou
01/09/2013 to 31/08/2018	**ENS diploma - Major Computer Science, Minor chemistry** École Normale Supérieure de Paris
01/09/2011 to 31/08/2014	**BSc, Chemistry** Sorbonne Université, Paris, France.

📄 Publications

Peer-reviewed conference proceedings

2023	Examining the Text-to-Image Community of Practice: Why and How do People Prompt Generative AIs? Pending review in the 15th ACM Conference on Creativity and Cognition
2022	Deep Learning Uncertainty in Machine Teaching **Téo Sanchez**, Baptiste Caramiaux, Pierre Thiel, and Wendy Mackay IUI 2022-27th Annual Conference on Intelligent User Interfaces, best paper award 🏆
2021	How do People Train a Machine? Strategies and (Mis) Understandings **Téo Sanchez**, Baptiste Caramiaux, Jules Françoise, Frédéric Bevilacqua, Wendy Mackay CSCW 2021-The 24th ACM Conference on Computer-Supported Cooperative Work and Social Computing
2021	Marcelle: Composing Interactive Machine Learning Workflows and Interfaces Jules Françoise, Baptiste Caramiaux, **Téo Sanchez** Annual ACM Symposium on User Interface Software and Technology (UIST'21)

Peer-reviewed scientific journals

2020	Machine Learning Approaches For Motor Learning: A Short Review

Baptiste Caramiaux, Jules Françoise, Wanyu Liu, **Téo Sanchez**, Frédéric Bevilacqua
Frontiers in Computer Science

2014   Formaldehyde chemistry in cometary ices: the case of HOCH 2 OH formation
Fabrice Duvernay, Rimola, Theule, Grégoire Danger, **Téo Sanchez**, Chiavassa
Physical Chemistry Chemical Physics

Dissertation

2022   Interactive Machine Teaching with and for novices
Téo Sanchez
Ph.D. dissertation, Université Paris Saclay
Best dissertation award 2022 from the francophone association of Human-Computer
Interaction (AFIHM) 🏆

💻 Software

2021   Contributor to the Marcelle toolkit for Composing Interactive Machine Learning Work-
flows and Interfaces
https://marcelle.dev/

📣 Invited talks and conferences

Conference organization

jun. 2023   7th edition of the HCI-AI scientific day
AFIHM, AFIA, and Sorbonne Center for AI (SCAI)
Main organizer

Conference participation

apr. 2023   IHM 2023 - 34th edition of the international and francophone confer-
ence on human-computer interaction
Paper presentation and demo session

mar. 2022   IUI 2022-27th Annual Conference on Intelligent User Interfaces
Paper presentation and demo session

oct. 2021   CSCW 2021-The 24th ACM Conference on Computer-Supported Coop-
erative Work and Social Computing
Paper presentation

oct. 2021   Annual ACM Symposium on User Interface Software and Technology
(UIST'21)
Demo session with co-authors

Summer school

aug. 2019   5th edition of the Computational Interaction summer school
Columbia University, New-York

jan. 2023	Invited talk in the workshop "Machine Teaching for Humans: Rethinking Example-Based Explanations" Funchal, Portugal
oct. 2023	Invited talk in the closing symposium and workshop of the ELEMENT project IRCAM, Paris
sep. 2022	Participation in the "Better images of AI" workshop *Part of an academic research project exploring how to better visualise artificial intelligence, informing the non-profit Better Images of AI https://betterimagesofai.org/* Held remotely
jun. 2022	Roundtable on "How will artificial intelligence change our future?" 103 digital hub (Startup incubator), Paris
may 2022	Talk in the colloquium "Human-Computer partnership" Collège de France, Paris
nov. 2021	Roundtable on "Crossing arts, design and sciences to teach differently" Centre pompidou, Paris
nov. 2021	Talk in the colloquium "Design and learning of gestures and movements: multidisciplinary approaches to human-machine systems" IRCAM, Paris
may 2018	Participation in the ERC CREATIV Workshop Maison de la Mutualité, Paris

👥 Supervision

2021	Pierre Thiel, Université Gustave Eiffel, Master thesis (6 month) Co-supervised by Baptiste Caramiaux (30%) and Téo Sanchez (70%)

🏆 Award

2022	**Best Paper Award** for Deep Learning Uncertainty in Machine Teaching **Téo Sanchez**, Baptiste Caramiaux, Pierre Thiel, and Wendy Mackay IUI 2022-27th Annual Conference on Intelligent User Interfaces
2023	**Best dissertation award** Francophone Association of Human-Computer Interaction (AFIHM)

💼 Teaching

I completed 392 hours of teaching during my Ph.D. (2018-2022) among bachelor and master students.

Bachelor Sem. 1	Introduction to computer science and imperative programming *Foundation of computer science, programming in C++, networks and internet architecture*

Bachelor Sem. 2	Introduction to modular programming *Foundation of software engineering, data structures, classes, encapsulation, and testing*
Bachelor Sem. 2	Multidisciplinary projects in math and computer science *Project-based learning, basics in Python and SAGE*
Bachelor Sem. 2	Introduction to Data Science *Processing chain of a data science problem, concepts of statistics and computer vision*
Bachelor Sem. 4	Databases *Theory and applications of databases, relational algebra, normal forms, and SQL*
Bachelor Sem. 6	Introduction to Statistical Learning *Theory and application of Machine Learning, Bayesian models, Neural network, NLP etc.*
Master Sem. 2	Interactive Machine Learning *Interactive Machine Learning and related fiels, project-based learning*

🎙 Science popularization

06/2021	Workshops among high-school students on AI In collaboration with the TRACES association Lycée Newton (Clichy) and Lycée Jean-Baptiste Say (Paris)
03/2020	Science popularization workshop on neural networks"Confine ta science" In collaboration with the TRACES association, Broadcasted on Twitch during the pandemic
10/2019	Co-creation workshop on Machine Learning In collaboration with the TRACES association, TURFU festival, Caen, France,

🎨 Art and Music

2021	Cor Epiglottae, in collaboration with Elna Aurand, Alexandre Boiron, Hervé de Saint Blancard, and Junhang Yu. *Interactive installation* Winner prize of the creARTathonFiu, exhibited in Gallerie Joseph, Paris
2021	Figure Dissidentes, in collaboration with the artist Rita Hajj *Video installation, generation from Arab films archives from the 60s.* Exhibited in "DIVAS arabes", Institut du Monde Arabe in 2021.
02/2018	Pianocktail *Musical installation inspired by Boris Vian* Exhibited during the patronage event of the Cité Internationale Universitaire de Paris.
04/2017	Sound design training with Max/MSP Supervised by the artist and developer Julien Bayle

04/2011	Diploma from the conservatory of music of Aubagne, France Classical piano and music theory

🔧 Languages

Natural languages

French	Native
English	Fluent, spoken and written
Spanish	Beginner
German	Beginner

Programming languages

Development	Python, C++
Web	HTML, CSS, JavaScript, Svelte, Node.js, RX.js, Express.js
Machine Learning	Tensorflow, PyTorch, Scikit-learn
Sound processing	PureData, Max/MSP, Faust
Database	SQL, NeDB