

Dr. Ing. Nicolo' Brandizzi

AI Researcher
Research Scientist @ Fraunhofer IAIS



CONTACTS

- ✉ nicolo.brandizzi@iais.fraunhofer.de
- 📍 Bonn, Germany
- 🏠 nicofirst1.github.io
- 🔊 nicofirst1
- 👤 in Nicolo' Brandizzi
- 🎓 Scholar
- 👤 1995

EXPERIENCE

Programming

Python 11 year(s)	●●●●●●
LaTeX 9 year(s)	●●●●●●
HPC 6 year(s)	●●●●●●
Bash 9 year(s)	●●●●●●
HTML/CSS 3 year(s)	●●●●●●

Artificial Intelligence

Deep Learning/ ML 9 year(s)	●●●●●●
Reinforcement Learning 7 year(s)	●●●●●●
NLP / LLMs 7 year(s)	●●●●●●
Data Engineer 2 year(s)	●●●●●●
AI Governance 1 year(s)	●●●●●●

Languages

Italian	Native
English	C2
German	B1
Spanish	B1

INTERESTS

- Drum Playing
- SCP
- Mental Health
- Neuro-diversity
- Biking
- Fermentation
- Social Sciences

WORK EXPERIENCE

Fraunhofer IAIS – Research Scientist 03/2024–Present

Engineered HPC-scale data pipelines for LLM training (703 TB, 24 languages) within [OpenGPT-X](#) and [EuroLingua GPT](#). Coordinated GDPR-compliant data governance in [TrustLLM](#) and [OpenFLaaS](#). Lead reproducibility activities in [DKZ.2R](#) (data reproducibility); organized hackathons and provided consultancy on reproducible AI pipelines. Lead the Fraunhofer contribution to [JUPITER AI Factory](#) (EuroHPC, €25 M). Designed and coordinated evaluation campaigns for foundation models in [ARCHER](#). Co-lead the Data Team (since 05/2025) and serve as Fraunhofer referent to the [Lamarr Institute](#).

Sapienza University of Rome – Researcher 02/2023–03/2024

Research on human-AI interaction using hierarchical, model-based RL with communication models ([‘Trust Your Agent Project’](#)). Co-authored publications, presented results at international workshops. Authored technical report on ‘Multi-Agent Model-Based RL’ for the [MBDA project](#), applying RL to mission-planning scenarios.

Basis Health – Research Scientist (Remote, USA) 10/2022–04/2023

Reviewed academic literature on wearable-tech innovation; advised R&D strategy. Developed and implemented health-data analysis methods enabling personalized insights. Produced actionable research reports for product teams.

Sapienza University of Rome – Teaching Assistant 07/2020–09/2022

Assisted in *Tecniche di Programmazione* and *Seminars in AI*; led tutorials, guided assignments, and supported course material development.

EDUCATION

Sapienza University of Rome – Ph.D. in Engineering in Computer Science 10/2020–05/2024

Thesis: ‘Conversational Agents in Human-Machine Interaction: Reinforcement Learning and Theory of Mind in Language Modeling’. Supervisors: [L. Iocchi](#), [R. Navigli](#). Research visits: 10 mo @ [U. Bayreuth](#) (Mobile Intelligent UIs) + 5 mo @ [U. Amsterdam](#) (ILLC). Member of [Ro.Co.Co. Lab](#), [DIAG Department](#).

Sapienza University of Rome – M.Sc. AI & Robotics 10/2017–08/2020

Thesis: ‘Reinforcement Lupus: Cooperation through Emergent Communication in the Werewolf Game’. Supervisor: [L. Iocchi](#). Grade: 110 cum laude / 110 (GPA 4.0). Erasmus: 10 mo @ [U. Groningen](#), supervisor D. Grossi.

Sapienza University of Rome – B.Sc. Computer & Autonomous Systems Engineering 10/2014–08/2017

Thesis: ‘Comparison Between Segmentation Methods’. Supervisor: [F. Pirri](#). Grade: 101 / 110 (GPA 2.97). Internship: 7 mo @ [ALCOR Lab](#) under [L. Freda](#), working on the [TRADR EU Project](#).

CERTIFICATIONS, GRANTS & AWARDS

Grants & Fellowships

- EuroHPC JU – JUPITER AI Factory NRW** 🔗 €25 M • Proposal Co-author • Grant No. EUROHPC-2024-CEI-AI-01 • Pan-European AI Factory advancing Exascale AI research and infrastructure. 2025
- AFOSR – Trust Your Agents** 🔗 €120 k • Research Collaborator • Grant FA8655-23-1-7257 • Human-machine cooperation via model-based and communication-augmented RL. 2023–2025
- RWTH Aachen University – “Future of AI” Summit** 🔗 Participant • Expert forum bridging academia and industry on AI strategy and governance. 09/2023
- TAILOR Network – CL.AIRE Rising Research Network** 🔗 €7 200 • Recipient • Connectivity Fund • Funding AI and mental-well-being workshop within the TAILOR network. 07/2023
- University of Amsterdam – Research Software Engineering Grant** 🔗 Recipient • UvA Data Science Center grant supporting CorpusCompass development and data infrastructure optimization. 06/2023
- COST Action CA18231 – Multi3Generation Training School** 🔗 €1 772 • Recipient • European training school on multilingual, multimodal generation methods for AI. 09/2022
- Sapienza University – Multi-Agent Model-Based RL** 🔗 €5 000 • Recipient • CINI research grant supporting experiments in model-based RL for multi-agent systems. 07/2021–09/2021
- Sapienza University – Research Scholarship (Avvio di Ricerca)** €2 000 • Recipient • Early-stage research funding for independent AI experiments and paper development. 2021–2022

Awards

- Spotlight Paper – ALA21 Workshop @ AAMAS** 🔗 Selected as spotlight paper, recognizing excellence in research on adaptive and learning agents. 2021
- Ph.D. Scholarship – Sapienza University of Rome** 🔗 First classified for competitive doctoral scholarship in Engineering in Computer Science. 2020

Certifications & Trainings

- Fraunhofer – Project Management Training (16 h)** Internal course on project coordination, budgeting, and EU project reporting. 03/2025
- Fraunhofer – Leadership Program (7.5 h)** Workshop on team motivation, conflict management, and communication. 02/2025
- BlueDot Impact – AI Safety Fundamentals: AI Governance** 🔗 Online program on AI governance, risk assessment, and global coordination. 08/2024–11/2024

CONFERENCES, SUMMER SCHOOLS & WORKSHOPS

Organized & Chaired

- AI-Mind Workshop 2.0** 🔗 R2Net AI Research & Mental Well-Being Workshop at ESSAI2024 07/2024
- MultiTTrust Special Issue** 🔗 at Journal of Interaction Studies 04/2024
- MultiTTrust Workshop** 🔗 Multidisciplinary Perspectives on Human-AI Team Trust 12/2023
- AI-Mind Workshop** 🔗 R2Net AI Research & Mental Well-Being Workshop at ESSAI2023 07/2023
- Weights and Biases Workshop** Workshop at Sapienza University 12/2022
- AI4UAM PhD School** 🔗 Artificial Intelligence for Urban Air Mobility 09/2022

Invited Talks

- European Broadcasting Union** 🔗 Data Technology Seminar 03/2025
- AI-Mind Workshop 2.0** 🔗 Advancing Generative and Trustworthy AI: Key Projects at Fraunhofer IAIS. 07/2024
- Solarpunk Conference** 🔗 Federated Approaches to Data Challenges in Ethical AI 07/2024
- 4th TAILOR Conference** 🔗 Trustworthy AI from lab to market 06/2024
- CLAIRE Rome Office Launch** 🔗 Safeguarding the Future: Higher Level AI Education 10/2023
- AIhub** 🔗 New voices in AI 05/2022
- Lightning Talks** 🔗 CLAIRE Rising Researchers Network 05/2022
- Sapienza University of Rome** 🔗 Machine Learning Seminars 01/2021

Attendee



- Summer School** 🔗 European Summer School on Artificial Intelligence 07/2023
- Training School** 🔗 Representation mediated Multimodality 09/2022
- Winter School** 🔗 DeepHealth Winter School 01/2022

Others

- HHAI2023** 🔗 Conference on Hybrid Human-Artificial Intelligence 06/2023
- Virgilio Project** 🔗 Mentoring for Young Entrepreneurs and Start-ups 11/2021





PROFESSIONAL EXPERIENCES

Co-investigator in the project ‘Stress-Related Difficulties and Neurodiversity Traits in People Working in AI’ funded by the Ministry of Enterprises and Made in Italy (MIMIT). Designed and launched a large-scale survey (>500 AI professionals) on mental-health challenges in research.


Bayreuth University, Germany 	11/2021–03/2025
Lead developer of CorpusCompass within the DFG-funded project ‘Modernity, Migration and Minorities’. Secured the UvA Research Software Engineering Grant (2023). Published at CLiC-it 2023 and Field Matters 2024 , ACL . Supervised two M.Sc. students; both continued as research assistants.	
Sapienza University of Rome – PhD Student Representative	11/2021–10/2023
Advocated for PhD students, negotiated AI writing software licenses benefiting 30+ researchers, and contributed to departmental policy reforms.	
DIAG, Sapienza University of Rome – Department Council Member	06/2021–10/2023
Collaborated on policy decisions to enhance research infrastructure and academic resources.	
Rotaract Club, Rome 	07/2021–07/2022
Developed and coordinated the Save Your Life project — a breast-cancer awareness initiative combining web outreach and community events.	

COMMUNITY ENGAGEMENT


Steering & Expert Roles

MultiTTrust Steering Committee 	11/2024–Present
Member of the international workshop series on Human-AI Team Trust; shaping themes, reviewing submissions, and fostering interdisciplinary collaboration.	
Z-Inspection® Affiliate 	11/2024–Present
Contribute to responsible-AI evaluation frameworks aligned with human-rights and ethical standards.	
CAIRNE SIG – Ethical, Legal & Social Aspects of AI 	10/2024–Present
Engaged in ethical-AI discussions, workshops on legal compliance, and integration of ELS principles into European projects.	
CAIRNE R2Net Kernel Member 	01/2022–Present
Coordinate 300-member network; oversee events, awards, and mental-well-being initiatives with ESSAI Summer School.	

Volunteering & Student Initiatives

ADI – Associazione Dottorandi in Italia	11/2021–01/2024
Supported national initiatives improving doctoral research conditions in Italy.	
Rotaract Club RTMM 	04/2018–01/2024
Informatics consultant for social-impact projects; Internal Commission President (2017–2018) managing member coordination and events.	
Erasmus Student Network Rome	03/2021–10/2022
Organized tandem-language exchanges and intercultural events (200+ participants each).	

PEER REVIEWS

Neurocomputing Elsevier journal focusing on computational neuroscience and neural systems.	2025
Autonomous Agents and Multi-Agent Systems Springer Nature journal on distributed AI and agent-based modeling.	2024
IEEE/RSJ IROS International Conference on Intelligent Robots and Systems.	2024
AI Communications IOS Press journal covering artificial intelligence theory and applications.	2023
EACL 17th European Chapter of the Association for Computational Linguistics (EACL 2023).	2023
CSAE 6th International Conference on Computer Science and Application Engineering.	2022
Emergent Communication Workshop – ICLR  Workshop at the International Conference on Learning Representations.	2022

SUPERVISIONS

Master Students

Jonas Adler User-Centered Design of Digital Tools for Sociolinguistic Studies in Under-Resourced Languages – <i>Universität Bayreuth</i>	2024
Carsten Scholle User-Centered Design of Digital Tools for Sociolinguistic Studies in Under-Resourced Languages – <i>Universität Bayreuth</i>	2024
Luca Faraoni Multi-Agent Model-Based Reinforcement Learning – <i>Sapienza University of Rome</i>	2023
Abdolhadi Rezaei Hand Gesture and Voice Recognition on Raspberry Pi – <i>Sapienza University of Rome</i>	2022
Francesco Frattolillo Adaptive Playing and Opponent Modeling in Competitive Games – <i>Sapienza University of Rome</i>	2021

Journal Articles

- [1] **N. Brandizzi**, "Toward More Human-Like AI Communication: A Review of Emergent Communication Research". In: *IEEE Access* 11 (2023), pp. 142317–142340. DOI: [10.1109/ACCESS.2023.3339656](https://doi.org/10.1109/ACCESS.2023.3339656).
- [2] S. Pepe, S. Tedeschi, **N. Brandizzi**, S. Russo, L. Iocchi, C. Napoli, "Human Attention Assessment Using A Machine Learning Approach with GAN-based Data Augmentation Technique Trained Using a Custom Dataset". In: *OBM Neurobiology* 06.03 (Sept. 2022), p. 139. ISSN: 2573-4407. DOI: [10.21926/obm.neurobiol.2203139](https://doi.org/10.21926/obm.neurobiol.2203139). URL: <https://doi.org/10.21926/obm.neurobiol.2203139>.
- [3] **N. Brandizzi**, D. Grossi, L. Iocchi, "RLupus: Cooperation through emergent communication in The Werewolf social deduction game". In: *Intelligenza Artificiale* 15 (2021), pp. 55–70. ISSN: 2211-0097. DOI: [10.3233/IA-210081](https://doi.org/10.3233/IA-210081). URL: <https://doi.org/10.3233/IA-210081>.

Conference Papers

- [4] M. Ali, M. Fromm, K. Thellmann, J. Ebert, A. A. Weber, R. Rutmann, C. Jain, M. Lübbering, D. Steinigen, J. Leveling, K. Klug, J. Schulze Buschhoff, L. Jurkschat, H. Abdelwahab, B. J. Stein, K.-H. Sylla, P. Denisov, **N. Brandizzi**, Q. Saleem, A. Bhowmick, L. Helmer, C. John, P. Ortiz Suarez, M. Ostendorff, A. Jude, L. Manjunath, S. Weinbach, C. Penke, O. Filatov, F. Barth, P. Mirza, L. Weber, I. Wendler, R. Sifa, F. Küch, A. Herten, R. Jäkel, G. Rehm, S. Kesselheim, J. Köhler, N. Flores-Herr, "Teuken-7B-base & Teuken-7b-instruct: Towards European LLMs". In: *Frontiers in Artificial Intelligence and Applications* (Oct. 2025). DOI: [10.3233/faia251328](https://doi.org/10.3233/faia251328). URL: <https://ebooks.iospress.nl/doi/10.3233/FAIA251328>.
- [5] G. Contino, R. Cipollone, F. Frattolillo, A. Fanti, **N. Brandizzi**, L. Iocchi, "Modeling a Trust Factor in Composite Tasks for Multi-Agent Reinforcement Learning". In: *Proceedings of the 12th International Conference on Human-Agent Interaction*. HAI '24. Swansea, United Kingdom: Association for Computing Machinery, 2024, pp. 195–203. DOI: [10.1145/3687272.3688325](https://doi.org/10.1145/3687272.3688325). URL: <https://doi.org/10.1145/3687272.3688325>.
- [6] M. Adnan, **N. Brandizzi**, "CorpusCompass: A Tool for Data Extraction and Dataset Generation in Corpus Linguistics". In: *Proceedings of the 9th Italian Conference on Computational Linguistics*. Ed. by F. Boschetti, G. E. Leboni, B. Magnini, N. Novielli, vol. 3596. CEUR Workshop Proceedings. Venice, Italy: CEUR Workshop Proceedings, 2023, pp. 16–27. URL: <http://ceur-ws.org/Vol-3596/>.
- [7] **N. Brandizzi**, D. Brunori, F. Frattolillo, A. Trapasso, L. Iocchi, "Mixed Human-UAV Reinforcement Learning: Literature Review and Open Challenges". In: *Proceedings of the 1st International Conference on Cognitive Aircraft Systems (ICCAS 2022)*. INSTICC. SciTePress, 2023, pp. 38–42. ISBN: 978-989-758-657-6. DOI: [10.5220/0011955100003622](https://doi.org/10.5220/0011955100003622).
- [8] **N. Brandizzi**, C. Centeio Jorge, R. Cipollone, F. Frattolillo, L. Iocchi, A.-S. Ulfert-Blank, "MULTITRUST: 2nd Workshop on Multidisciplinary Perspectives on Human-AI Team Trust". In: *Proceedings of the 11th International Conference on Human-Agent Interaction*. HAI '23. Available online at <https://multitrust.github.io/2ed/>. Gothenburg, Sweden: Association for Computing Machinery, 2023, pp. 496–497. DOI: [10.1145/3623809.3623978](https://doi.org/10.1145/3623809.3623978). URL: <https://doi.org/10.1145/3623809.3623978>.
- [9] E. Takmaz, **N. Brandizzi**, M. Giulianelli, S. Pezzelle, R. Fernández, "Speaking the Language of Your Listener: Audience-Aware Adaptation via Plug-and-Play Theory of Mind". In: *Findings of the Association for Computational Linguistics: ACL 2023, Toronto, Canada, July 9-14, 2023*. Ed. by A. Rogers, J. L. Boyd-Graber, N. Okazaki, Association for Computational Linguistics, 2023, pp. 4198–4217. DOI: [10.18653/V1/2023.FINDINGS-ACL.258](https://doi.org/10.18653/V1/2023.FINDINGS-ACL.258). URL: <https://doi.org/10.18653/v1/2023.findings-acl.258>.
- [10] **N. Brandizzi**, A. Fanti, R. Gallotta, S. Russo, L. Iocchi, D. Nardi, C. Napoli, "Unsupervised Pose Estimation by Means of an Innovative Vision Transformer". In: *Artificial Intelligence and Soft Computing - 21st International Conference, ICAISC 2022, Zakopane, Poland, June 19-23, 2022, Proceedings, Part II*. Ed. by L. Rutkowski, R. Scherer, M. Korytkowski, W. Pedrycz, R. Tadeusiewicz, J. M. Zurada, vol. 13589. Lecture Notes in Computer Science. Springer, 2022, pp. 3–20. DOI: [10.1007/978-3-031-23480-4](https://doi.org/10.1007/978-3-031-23480-4). URL: <https://doi.org/10.1007/978-3-031-23480-4>.

Workshop Papers

- [11] J. Adler, C. Scholle, D. Buschek, **N. Brandizzi**, M. Adnan, "User-Centered Design of Digital Tools for Sociolinguistic Studies in Under-Resourced Languages". In: *Proceedings of the 3rd Workshop on NLP Applications to Field Linguistics (Field Matters 2024)*. Ed. by O. Serikov, E. Voloshina, A. Postnikova, S. Muradoglu, E. Le Ferrand, E. Klyachko, E. Vylomova, T. Shavrina, F. Tyers, Bangkok, Thailand: Association for Computational Linguistics, Aug. 2024, pp. 12–27. URL: <https://aclanthology.org/2024.fieldmatters-1.3>.
- [12] **N. Brandizzi**, C. C. Jorge, F. Frattolillo, L. Iocchi, A. Ulfert-Blank, eds. *Proceedings of the 2nd International Workshop on Multidisciplinary Perspectives on Human-AI Team Trust co-located with 11th International Conference on Human-Agent Interaction (HAI 2023), Gothenburg, Sweden, December 4-7, 2023*. Vol. 3634. CEUR Workshop Proceedings. CEUR-WS.org, 2024. URL: <https://ceur-ws.org/Vol-3634>.
- [13] S. Di Rienzo, F. Frattolillo, R. Cipollone, A. Fanti, **N. Brandizzi**, L. Iocchi, "Developing Targeted Communication through a Trust Factor in Multi-Agent Reinforcement Learning". In: *Proceedings of HAI 2024 Workshops*. Ed. by P. Ericson, N. Khairova, M. D. Vos, vol. 3825. CEUR Workshop Proceedings. Published under Creative Commons License Attribution 4.0 International (CC BY 4.0). Malmö, Sweden: CEUR-WS.org, June 2024, pp. 171–175. URL: <http://ceur-ws.org/Vol-3825/>.
- [14] F. Frattolillo, **N. Brandizzi**, R. Cipollone, L. Iocchi, "Towards Computational Models for Reinforcement Learning in Human-AI Teams". In: *Proceedings of the 2nd International Workshop on Multidisciplinary Perspectives on Human-AI Team Trust*. Vol. 3634. CEUR Workshop Proceedings. Gothenburg, Sweden, 2023, pp. 41–51. URL: <https://ceur-ws.org/Vol-3634/>.

- [15] **N. Brandizzi**, L. Iocchi, "Emergent communication in human-machine games". In: *Emergent Communication Workshop at ICLR 2022*. 2022. URL: <https://openreview.net/forum?id=rqLgeQWCXZ9>.
- [16] R. Aureli, **N. Brandizzi**, G. De Magistris, R. Brociek, "A Customized Approach to Anomalies Detection by using Autoencoders". In: *Proceedings of the Scholar's Yearly Symposium of Technology, Engineering and Mathematics (SYSTEM 2021), Catania, Italy, July 27-29, 2021*. Ed. by R. Fazzolari, A. A. Jaber, vol. 3092. CEUR Workshop Proceedings. CEUR-WS.org, 2021, pp. 53-59. URL: <http://ceur-ws.org/Vol-3092/p09.pdf>.
- [17] **N. Brandizzi**, V. Bianco, G. Castro, S. Russo, A. Wajda, "Automatic RGB Inference Based on Facial Emotion Recognition". In: *Proceedings of the Scholar's Yearly Symposium of Technology, Engineering and Mathematics (SYSTEM 2021), Catania, Italy, July 27-29, 2021*. Ed. by R. Fazzolari, A. A. Jaber, vol. 3092. CEUR Workshop Proceedings. CEUR-WS.org, 2021, pp. 66-74. URL: <http://ceur-ws.org/Vol-3092/p11.pdf>.
- [18] **N. Brandizzi**, A. Fanti, R. Gallotta, C. Napoli, "FEFFuL: a Few-Examples Fitness Function Learner". In: *Proceedings of the Scholar's Yearly Symposium of Technology, Engineering and Mathematics (SYSTEM 2021), Catania, Italy, July 27-29, 2021*. Ed. by R. Fazzolari, A. A. Jaber, vol. 3092. CEUR Workshop Proceedings. CEUR-WS.org, 2021, pp. 75-79. URL: <http://ceur-ws.org/Vol-3092/p12.pdf>.
- [19] **N. Brandizzi**, S. Russo, R. Brociek, A. Wajda, "First Studies to Apply the Theory of Mind Theory to Green and Smart Mobility by Using Gaussian Area Clustering". In: *Proceedings of the International Conference of Yearly Reports on Informatics, Mathematics and Engineering, Online, July 9, 2021*. Ed. by R. Fazzolari, A. A. Jaber, vol. 3118. CEUR Workshop Proceedings. CEUR-WS.org, 2021, pp. 71-76. URL: <http://ceur-ws.org/Vol-3118/p10.pdf>.

Preprints

- [20] **N. Brandizzi**, "Extended Abstract: Conversational Agents in Human-Machine Interaction, Reinforcement Learning and Theory of Mind in Language Modeling". In: May 2024, p. 4. DOI: [10.13140/RG.2.2.29722.25287](https://doi.org/10.13140/RG.2.2.29722.25287). URL: https://www.researchgate.net/publication/380396634_Extended_Abstract_Conversational_Agents_in_Human-Machine_Interaction_Reinforcement_Learning_and_Theory_of_Mind_in_Language_Modeling.
- [21] **N. Brandizzi**, H. Abdelwahab, A. Bhowmick, L. Helmer, B. J. Stein, P. Denisov, Q. Saleem, M. Fromm, M. Ali, R. Rutmann, F. Naderi, M. S. Agy, A. Schwirjow, F. Küch, L. Hahn, M. Ostendorff, P. O. Suarez, G. Rehm, D. Wegener, N. Flores-Herr, J. Köhler, J. Leveling, *Data Processing for the OpenGPT-X Model Family*. Oct. 2024. arXiv: [2410.08800](https://arxiv.org/abs/2410.08800) [cs.CL]. URL: <https://arxiv.org/abs/2410.08800>.

Other

- [22] **N. Brandizzi**, "Conversational Agents in Human-Machine Interaction: Reinforcement Learning and Theory of Mind in Language Modeling". PhD thesis. 2024. URL: <https://hdl.handle.net/11573/1709118>.