

Nicolo' Brandizzi

PhD Candidate at Sapienza university of Rome.
Researching Reinforcement Learning tied to Natural Language Processing

"Follow the gradient"



CONTACTS

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- 🌐 Nicolò Brandizzi
- 📅 17/01/1995

SKILLS

Programming

- Python 9 year(s) ●●●●●●●●●●
- Bash 7 year(s) ●●●●●●●●●●
- LaTeX 7 year(s) ●●●●●●●●●●
- Matlab 2 year(s) ●●●●●●●●●●
- C++ 2 year(s) ●●●●●●●●●●
- HTML/CSS 1 year(s) ●●●●●●●●●●

Frameworks

- Pytorch 4 year(s) ●●●●●●●●●●
- Numpy 6 year(s) ●●●●●●●●●●
- Tensorflow 2 year(s) ●●●●●●●●●●
- OpenCV 3 year(s) ●●●●●●●●●●

Operating Systems

- MacOS 16 year(s) ●●●●●●●●●●
- Linux 8 year(s) ●●●●●●●●●●
- Windows 2 year(s) ●●●●●●●●●●

Languages

- | | |
|---------|--------|
| Italian | Native |
| English | C1 |
| Spanish | A2 |
| German | A1 |

ABOUT ME

- Martial arts enthusiast 6 year(s)
- RPG aficionado 12 year(s)
- Drum player 4 year(s)

EDUCATION

🎓 **Ph.D. Engineering in Computer Science** 📅 2020 - 2024
📍 Sapienza University of Rome, Italy

- **Research Group:** I am part of the [Ro.Co.Co.](#) lab at [DIAG](#) (Dipartimento di Ingegneria informatica, automatica e gestionale). My supervisor is Prof. [Luca Iocchi](#).
- **Thesis Supervision:** I have provided supervision for several Master's students in their thesis writing.
- **Research Visit at UvA:** I completed a 5 months (03/2022 - 08/2022) scientific visiting period at Amsterdam university under the supervision of Prof. [Raquel Fernández](#).
- **Research Visit at UBT:** I completed a 6 months (04/2023 - 10/2023) research visit at the University of Bayreuth under the supervision of Prof. [Daniel Buschek](#).

🎓 **M.Sc. of Engineering in Artificial Intelligence and Robotics** 📅 2017 - 2020
📍 Sapienza University of Rome, Italy

- **Grade :** 110 with honors /110 (GPA 4/4).
- **M.Sc. Thesis:** "Reinforcement Lupus: Cooperation through emergent communication in The Werewolf social deduction game", under supervision of Prof. [Luca Iocchi](#).
- **Erasmus Program:** I completed a 10 months (10/2019 - 08/2020) Erasmus program in the University of Groningen, Netherlands, under the supervision of Prof. [Davide Grossi](#).

🎓 **B.Sc. of Computer and Autonomous System Engineering** 📅 2014 - 2017
📍 Sapienza University of Rome, Italy

- **Grade :** 101/110 (GPA 2.97/4).
- **B.Sc. Thesis:** "Comparison Between Segmentation Methods", under supervision of Prof. [Fiora Pirri](#).
- **Internship :** I completed a 7 months internship (05/2017 - 01 /2018) in the [ALCOR Lab](#) under the supervision of [Luigi Freda](#) working on the [TRADR EU](#) project.

WORK EXPERIENCE

Research Scientist at Basis Health



10/2022 - 04/2023

📍 Middletown, 19709, USA (Remote)

Conducted in-depth analysis of academic literature related to wearable data and health applications, with a focus on identifying cutting-edge solutions. Leveraged insights from research papers to drive innovation in industry applications. Collaborated with cross-functional teams to translate academic findings into practical approaches and techniques for data analysis, aiming to improve personal health outcomes.

Teaching Assistant



07/2020 - 09/2022

📍 Sapienza University of Rome, Italy

I have held several teaching assistant positions, including for the courses *Tecniche di Programmazione* and *Seminars in Artificial Intelligence*. In these roles, I was responsible for leading discussions, providing support to students, grading assignments and exams, and facilitating a positive learning environment.


ACHIEVEMENTS, GRANTS AND AWARDS

Grants & Fellowships

02/2023 - Ongoing **Air Force Office of Scientific Research:** Trust Your Agents 

09/2023 - 09/2023 **RWTH Aachen University:** "Future of AI" Summit in Aachen 

07/2023 - 07/2023 **TAILOR:** Connectivity Fund 

06/2023 - 12/2023 **University Van Amsterdam:** DSC 2023 Research Engineering Support Grant 

09/2022 - 09/2022 **COST Action EU:** Multi3Generation Training School 

07/2021 - 09/2021 **CINI:** Techniques of Artificial Intelligence for Assisted Mission Planning 

07/2021 - 09/2021 **Sapienza University of Rome:** Research scholarship (Avvio di ricerca) 

Awards

🏆 2021 - Spotlight paper in Adaptive and Learning Agents Workshop [ALA21] at AAMAS.

🏆 2020 - First classified for Ph.D. scholarship at Sapienza University of Rome, Italy.

PEER REVIEW

2023 **Journal:** AI Communications

2023 **EACL:** The 17th Conference of the European Chapter of the Association for Computational Linguistics

2022 **CSAE:** The 6th International Conference on Computer Science and Application Engineering

2022 **Emergent Communication Workshop:** International Conference on Learning Representations [ICLR]

CONFERENCES, SUMMER SCHOOLS & WORKSHOPS

Organizer

12/2023 Organizer at **MultiTrust Workshop:** Multidisciplinary Perspectives on Human-AI Team Trust 

07/2023 Organizer at **AI-Mind Workshop at ESSAI:** R2Net AI Research & Mental Well-Being Workshop 

12/2022 Organizer at **Weights and Biases Workshop:** Workshop at Sapienza University

09/2022 Local Chair at **AI4UAM PhD School:** Artificial Intelligence for Urban Air Mobility 

Invited Talks

11/2023 Speaker at **Fraunhofer IAIS:** Minds and Machines: Towards Aligned Human-AI Interaction

10/2023 Speaker at **CLAIRE Rome Office Launch:** Safeguarding the Future: Higher Level AI Education 

05/2022 Speaker at **AIhub:** New voices in AI 

05/2022 Speaker at **Lightning Talks:** CLAIRE Rising Researchers Network 🔗

01/2021 Speaker at **Sapienza University of Rome:** Machine Learning Seminars 🔗

Attendee

07/2023 Attendee at **Summer School:** European Summer School on Artificial Intelligence 🔗

09/2022 Attendee at **Training School:** Representation mediated Multimodality 🔗

01/2022 Attendee at **Winter School:** DeepHealth Winter School 🔗

Others

06/2023 Student Volunteer at **HHAi2023:** Conference on Hybrid Human-Artificial Intelligence 🔗

11/2021 Mentee at **Virgilio Project:** Mentoring for Young Entrepreneurs and Start-ups 🔗



PROFESSIONAL EXPERIENCES

Lead Developer 📅 11/2021 - Ongoing 📍 Bayreuth University, Germany

Led the conceptualization, design, and implementation of the [CorpusCompass project](#) within the DFG-funded "[Modernity, Migration and Minorities](#)" research project, resulting in CorpusCompass securing the UvA Research Software Engineering grant and acceptance at Clic-IT 2023.

PhD student representative 📅 11/2021 - 10/2023 📍 Sapienza University, Rome, Italy

Served as a liaison between the PhD student body and the administration, advocating for student needs and fostering a positive learning environment.

Member of the Department Council 📅 06/2021 - 10/2023 📍 DIAG, Sapienza University, Rome, Italy

Played a key role in shaping department policies, collaborating with council members and faculty to support departmental success and growth.

Project Developer 📅 07/2021 - 07/2022 📍 Rotaract Club, Rome, Italy

Coordinated the [Save Your Life project](#) to raise breast cancer awareness, launching an informative website and organizing public events and outreach.



COMMUNITY ENGAGEMENT

CLAIRE | R2net Kernel member 📅 12/2022 - Ongoing 📍 Online

Promoted to kernel member within [CLAIRE | Rising Researcher Network](#), serving as the first line of contact between CLAIRE and R2Net members.

Volunteer at ADI 📅 11/2021 - 01/2024 📍 Rome, Italy

Volunteered with ADI (Associazione dottorandi in Italia) to support fellow doctoral students across Italy, contributing to initiatives aimed at enhancing the doctoral candidate experience.

Rotaract Club volunteer 📅 04/2018 - 01/2024 📍 Rome, Italy

As an active member of the [Rotaract Club RTMM](#), worked as an informatics consultant to design and implement technology solutions supporting club initiatives focused on community service and leadership development. I was also the President of the Internal Commission (06/2017 - 06/2018) where I was responsible for internal member coordination and the organization of social events.

CLAIRE | R2Neet volunteer 📅 01/2022 - 12/2022 📍 Online

Joined [CLAIRE | Rising Researcher Network](#), aiding in organizing partnerships, social events, and summer schools for Ph.D. students interested in Artificial Intelligence.

Erasmus Student Network volunteer 📅 03/2021 - 10/2022 📍 Rome, Italy

Contributed to event planning and coordination, serving as a liaison for incoming Erasmus students, gaining valuable experience in event management and cross-cultural communication.

Journal Articles

- [1] **N. Brandizzi**, S. Russo, G. Galati, C. Napoli, "Addressing Vehicle Sharing through Behavioral Analysis: A Solution to User Clustering Using Recency-Frequency-Monetary and Vehicle Relocation Based on Neighborhood Splits". In: *Inf.* 13.11 (2022), p. 511. DOI: [10.3390/info13110511](https://doi.org/10.3390/info13110511). URL: <https://doi.org/10.3390/info13110511>.
- [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. Adnan, **N. Brandizzi**, "CorpusCompass: A Tool for Data Extraction and Dataset Generation in Corpus Linguistics". In: *Ninth Italian Conference on Computational Linguistics*. 2023. URL: <https://openreview.net/forum?id=aMsfWb8XWC>.
- [5] **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 International Conference on Human-Agent Interaction*. HAI '23. Available online at <https://multitrust.github.io/2ed/>. ACM. Gothenburg, Sweden: Association for Computing Machinery, 2023, Article No.: To be assigned. ISBN: 979-8-4007-0824-4/23/12. DOI: [10.1145/3623809.3623978](https://doi.org/10.1145/3623809.3623978).
- [6] 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>.
- [7] **N. Brandizzi**, D. Brunori, A. Trapasso, F. Frattolillo, L. Iocchi, "Mixed Human-UAV Reinforcement Learning: Literature Review and Open Challenges". In: *The International Conference on Cognitive Aircraft Systems (ICCAS)*. 2022. URL: https://events.isae-superaero.fr/event/14/contributions/367/attachments/32/69/Extended_Abstract_ICCAS_2022.pdf.
- [8] **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

- [9] **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>.
- [10] 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>.
- [11] **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>.
- [12] **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>.
- [13] **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

- [14] **N. Brandizzi**, *Towards More Human-like AI Communication: A Review of Emergent Communication Research*. 2023. arXiv: [2308.02541](https://arxiv.org/abs/2308.02541) [cs.CL]. URL: <https://arxiv.org/abs/2308.02541>.