

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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- 📅 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](#).

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




- 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 
- 02/2023 - 02/2024 **Air Force Office of Scientific Research:** Trust Your Agents 
- 09/2022 - 09/2022 **COST Action EU:** Multi3Generation Training School 
- 07/2021 - 09/2021 **CINI:** Techniques of Artificial Intelligence for Assisted Mission Planning 
- 10/2021 - 10/2022 **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.

CONFERENCES, SUMMER SCHOOLS & WORKSHOPS

Organizer

- 12/2023 Organizer at **MultiTTrust 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 **Alhub:** 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.

PUBLICATIONS

Journal Articles

- [1] N. Brandizzi, "Towards More Human-like AI Communication: A Review of Emergent Communication Research". In: *IEEE Access* (2023), pp. 1–1. DOI: [10.1109/ACCESS.2023.3339656](https://doi.org/10.1109/ACCESS.2023.3339656).
- [2] 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>.
- [3] 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>.
- [4] 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

- [5] 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>.

- [6] **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. ISBN: 9798400708244. DOI: 10.1145/3623809.3623978. URL: <https://doi.org/10.1145/3623809.3623978>.
- [7] 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. URL: <https://doi.org/10.18653/v1/2023.findings-acl.258>.
- [8] **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-supaero.fr/event/14/contributions/367/attachments/32/69/Extended_Abstract_ICCAS_2022.pdf.
- [9] **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. URL: <https://doi.org/10.1007/978-3-031-23480-4>.

Workshop Papers

- [10] **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>.
- [11] 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>.
- [12] **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>.
- [13] **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>.
- [14] **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>.