Alberto Lillo

Curriculum Vitae

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Alberto Lillo is a **PhD Candidate in Computer Science** at the University of Turin, where he is part of the XXXVIII PhD cycle under the supervision of Professors Cristina Gena and Alessandra Sciutti(Istituto Italiano di Tecnologia IIT). He holds a **Master's Degree in Artificial Intelligence and Information Systems** from the University of Turin and a **Bachelor's Degree in Computer Science** from the University of Turin.
He is a member of the **Advanced Interactions & Robotics Lab** at the Department of Computer Science, University of Turin.
His research focuses on:

- HRI (Human–Robot Interaction) with a focus on social robots
- Empathic and adaptive cognitive architectures:
  perception → understanding → appraisal → memory → decision → generation → action
- Multimodal perception (vision, audio, language): emotion/posture recognition, STT/MT
- Personalisation and user modelling for tailored dialogues and behaviours
- Applications in educational and assistive contexts
- System engineering: edge/HPC pipeline, module integration (YOLO, Whisper, etc.), experimental evaluations

Personal Information

First Name	Alberto
Last Name	Lillo
Nationality	Italian
Year of Birth	1996

Work Experience

Since Nov 2022 (Ongoing) — **PhD in Computer Science**
Department of Computer Science - University of Turin, Turin, Italy
Research on Social and Assistive Robotics
Funded by PNRR doctoral scholarship (Ministry of University and Research – MIUR)

Education

Since Nov 2022 (*Ongoing*) — **PhD in Computer Science**, University of Turin – Turin, Italy
Research topic: Social and Assistive robotics
Supervisors: Prof. Cristina Gena, Alessandra Sciutti (Istituto Italiano di Tecnologia)

Sep 2019 - Oct 2022 — **Master's Degree in Artificial Intelligence**, Artificial Intelligence and Information Systems, University of Turin – Turin, Italy
Thesis: Emotion and Face Recognition in robot interaction
Supervisors: Prof. Cristina Gena

Sep 2016 - Oct 2019 **Bachelor's Degree in Computer Science**, University of Turin – Turin, Italy
Thesis: Emotional AI and social robots: the Sanbot case
Supervisor: Prof. Cristina Gena

Research and Training Experiences

Oct 2025-Nov 2025 **Research Internship at Cognitive Robotics Lab, University of Manchester, (Manchester, UK)**
Supervisor: Prof. Angelo Cangelosi
Focus: Cognitive architecture in Human Robot Interaction
`https://www.manchester.ac.uk/ https://corolab.uk/`

Jan 2024-Jun 2025 **Research Internship at Cognitive Robotics Lab, University of Manchester, (Manchester, UK)**
Supervisor: Prof. Angelo Cangelosi
Focus: Cognitive architecture in Human Robot Interaction
`https://www.manchester.ac.uk/ https://corolab.uk/`

Feb 2024 **SoRAIM Winter School, (Grenoble, FR)**
Topics: Speech source localization and separation, Mapping and visual self-localization, Social-aware robot navigation, Tracking and analysis of human behavior, Dialog management, natural language understanding, and generation, Robotic middleware and software integration, Ethics and experimental design
`https://spring-h2020.eu/soraim/`

Oct 2023-Dec 2023 **Research Internship at CONTACT Unit, Istituto Italiano di Tecnologia, (Genoa, IT)**
Supervisor: Alessandra Sciutti
Focus: Cognitive architecture in Human Robot Interaction
`https://contact.iit.it/`

Jul 2023 **7th International School on Big Data, BigDat 2023 Summer, (Las Palmas, ESP)**
Courses: Hybrid Quantum Computing, AI for Health, Neural MT, Programming Language Design
`https://bigdat.irdta.eu/2023su/`

Publications

[1] Filipa Correia, Cristina Gena, Alberto **Lillo**, Laura Lossi, Claudio Mattutino, Valentina Nisi, Linda Pigureddu, and Fabiana Vernero. "Of Dogs and Robots: More Than Human Interactions at Play?" In: *Companion Proceedings of the 21st ACM/IEEE International Conference on Human-Robot Interaction*. HRI Companion '26. Edinburgh, Scotland, UK: Association for Computing Machinery, 2026, pp. 547–551. ISBN: 9798400723216. DOI: 10.1145/3776734.3794455. URL: https://doi.org/10.1145/3776734.3794455.

[2] Nello Balossino, Rossana Damiano, Cristina Gena, Alberto **Lillo**, Anna Maria Marras, Claudio Mattutino, Antonio Pizzo, Alessia Prin, and Fabiana Vernero. "Social and Telepresence Robots for Accessibility and Inclusion in Small Museums". In: *arXiv preprint arXiv:2508.05946* (2025).

[3] Giulia Botta, Marco Botta, Cristina Gena, Alessandro Mazzei, Massimo Donini, and Alberto **Lillo**. "Using the Pepper Robot to Support Sign Language Communication". In: *arXiv preprint arXiv:2509.09889* (2025).

[4] Giorgia Buracchio, Ariele Callegari, Massimo Donini, Cristina Gena, Antonio Lieto, Alberto **Lillo**, Claudio Mattutino, Alessandro Mazzei, Linda Pigureddu, Manuel Striani, et al. "Emotion Alignment in Human-Robot Interaction: Effects on Communication Styles and Persuasion". In: *IEEE Transactions on Affective Computing* (2025).

[5] Giorgia Buracchio, Ariele Callegari, Massimo Donini, Cristina Gena, Antonio Lieto, Alberto **Lillo**, Claudio Mattutino, Alessandro Mazzei, Linda Pigureddu, Manuel Striani, and Fabiana Vernero. "The Impact of Adaptive Emotional Alignment on Mental State Attribution and User Empathy in HRI". In: *2025 34th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*. 2025, pp. 2436–2443. DOI: 10.1109/RO-MAN63969.2025.11217584.

[6] Francesca Cocchella, Alberto **Lillo**, Giuseppe Palestra, Luca Raggioli, Giulia Scorza Azzarà, and Cristina Gena. "6th Workshop on Adapted intEraction with SociAl Robots (cAESAR)". In: *Adjunct Proceedings of the 33rd ACM Conference on User Modeling, Adaptation and Personalization*. UMAP Adjunct '25. Association for Computing Machinery, 2025, pp. 132–135. ISBN: 9798400713996. DOI: 10.1145/3708319.3727562. URL: https://doi.org/10.1145/3708319.3727562.

[7] Alberto **Lillo**, Claudio Mattutino, and Cristina Gena. "vNAO: Virtual NAO as a Cognitive Companion for the Elderly". In: *Adjunct Proceedings of the 33rd ACM Conference on User Modeling, Adaptation and Personalization*. UMAP Adjunct '25. Association for Computing Machinery, 2025, pp. 169–173. ISBN: 9798400713996. DOI: 10.1145/3708319.3733665. URL: https://doi.org/10.1145/3708319.3733665.

[8] Angelo Paloka, Alberto **Lillo**, Fabiana Vernero, Filipa Correia, Valentina Nisi, Laura Lossi, and Cristina Gena. "Robots adapting to dogs: a new frontier?" In: *Adjunct Proceedings of the 33rd ACM Conference on User Modeling, Adaptation and Personalization*. UMAP Adjunct '25. Association for Computing Machinery, 2025, pp. 156–160. ISBN: 9798400713996. DOI: 10.1145/3708319.3733666. URL: https://doi.org/10.1145/3708319.3733666.

[9] Alberto **Lillo**, Alessandro Saracco, Elena Siletto, Claudio Mattutino, and Cristina Gena. "Investigating the relationship between empathy and attribution of mental states to robots". In: *arXiv preprint arXiv:2405.01019* (2024).

[10] Alessandro Saracco, Alberto **Lillo**, Marco Stranisci, and Cristina Gena. "Human Robot Interaction through an ontology-based dialogue engine". In: *Companion of the 2024 ACM/IEEE International Conference on Human-Robot Interaction*. 2024, pp. 940–944.

[11] Cristina Gena, Francesca Manini, Antonio Lieto, Alberto **Lillo**, and Fabiana Vernero. "Can empathy affect the attribution of mental states to robots?" In: *Proceedings of the 25th international conference on multimodal interaction*. 2023, pp. 94–103.

[12] Alberto **Lillo**. "Empathy and Emotion in Social Robots". In: *CEUR WORKSHOP PROCEEDINGS*. Vol. 3481. CEUR-WS. 2023, pp. 43–48.

[13] Cristina Gena, Alberto **Lillo**, Claudio Mattutino, and Enrico Mosca. "An affective and adaptive educational robot". In: *arXiv preprint arXiv:2205.10222* (2022).

[14] Cristina Gena, Alberto **Lillo**, Claudio Mattutino, and Enrico Mosca. "Wolly: an affective and adaptive educational robot". In: *Adjunct Proceedings of the 30th ACM Conference on User Modeling, Adaptation and Personalization*. 2022, pp. 146–150.

[15] Cristina Gena, Claudio Mattutino, Enrico Mosca, and Alberto **Lillo**. "An end-user coding-based environment for programming an educational affective robot". In: *arXiv preprint arXiv:2203.06439* (2022).

Conference Presentations and Talks

Mar 2026 21st ACM/IEEE International Conference on Human-Robot Interaction, HRI 2026 [1]
Edinburgh, UK
`https://humanrobotinteraction.org/2026/`

Jun 2025 33rd ACM International Conference on User Modeling, Adaptation and Personalization, UMAP 2025 [8, 7]
New York, USA
`https://www.um.org/umap2025/`

Jun 2024 17th International Conference on Advanced Visual Interfaces, AVI 2024
Arenzano, Italy [9]
`https://avi2024.dibris.unige.it/home`

Mar 2024 19th ACM/IEEE International Conference on Human-Robot Interaction, HRI 2024 [10]
Boulder, Colorado, USA
`https://humanrobotinteraction.org/2024/index.html`

Oct 2023 25th ACM International Conference on Multimodal Interaction, ICMI 2023[11]
Paris, France
`https://icmi.acm.org/2023/`

Sep 2023 15th CHItaly [12]
Turin, Italy
`https://chitaly2023.it/`

Mar 2023 18th ACM/IEEE International Conference on Human-Robot Interaction, HRI 2023
Stockholm, Sweden
`https://humanrobotinteraction.org/2023/`

Research Projects

2024-2025 **Don't cHRI**

https://airlab.di.unito.it/project/dont-chri/

This project explores the role of artificial empathy in human-robot interaction by equipping social robots with the ability to recognize user emotions and respond empathically.

The robot's multimodal responses, aligned with the user's emotional state, are designed to simulate empathy, creating a more natural and engaging interaction experience.

The project investigates how these empathetic behaviors influence user reactions and provides critical insights into the potential of emotion-based robotics, highlighting both its possibilities and ethical implications for future applications.

2021-2022 **Wolly**

https://airlab.di.unito.it/project/wolly/

Wolly is a robotic companion designed to support children with disabilities in both educational and therapeutic settings.

By facilitating personalized learning experiences, Wolly helps to improve social interaction, cognitive skills, and inclusion within group activities.

The project also explores how adaptive robotics can create meaningful bonds between children and technology, fostering confidence and providing a safe space for learning and growth.

Wolly aims to set a new standard for integrating robots into educational systems to empower children and enhance developmental outcomes.

Academic Service

Program Committee

6th Workshop on Adapted intEraction with SociAl Robots (cAESAR)
33rd ACM International Conference on User Modeling, Adaptation and Personalization (UMAP 2025)
16-19 June 2025, New York, USA
https://caesar2025.di.unito.it/

Public Engagement

2025 **Maker Faire Rome 2025**

Participation in the Maker fair, an event where Makers, innovators and creative minds from around the world present projects in electronics, artificial intelligence, robotics, virtual and augmented reality, gaming, music, art, education and much more.

https://makerfairerome.eu/

2025 **A&T Torino 2025**

Participation in the A&T Torino trade fair, dedicated to companies that offer solutions for the manufacturing industry and wish to meet a qualified professional audience.

https://www.aetevent.com/fiera-torino

2024 - 2023 - **European Researchers' Night**
2021 Participation in The European Researchers' Night in Turin, that celebrates not only the achievements of research but, above all, the journey itself: collective, passionate, sometimes uncertain, always surprising. An immersive experience into the world of research through hands-on workshops, experiments, talks, performances, and encounters that reveal how researchers are addressing today's major societal challenges.
`https://unightproject.eu/en`

Teaching

2025–2026 Tutoring – Human-Computer Interaction: Advanced Aspects, 40 hours
Master's Degree in Communication, ICT and Media, University of Turin

2024–2025 Tutoring – Web Technologies: Advanced Approaches, 40 hours
Master's Degree in Communication, ICT and Media, University of Turin

2024–2025 Teaching – Cryptography course
Primary school of Turin, Italy

Language Skills

Italian Native speaker

English Upper-intermediate – strong reading, writing, and conversational skills

Turin, Thursday 23rd April, 2026