

Form to collect the information relevant for the PhD Quality Awards

PhD Student information

Surname	Borzì
Name	Luigi
PhD Cycle	35
Tutor	Gabriella Olmo

Participation in Research Projects

Project name and short description	Competitive Selection	Project Scope	From	To	Role in project	Notes
Partnership RESTART Project SEXTET Workpackage: WP 5 - Body networks and e-health services (Biomedical sensors design, Health monitoring in extreme environments, Intra- and area-body communication)	Yes	I	01/01/2023	28/02/2026	P	Website: https://www.fondazione-restart.it/
Partnership NODES Spoke Health Industry and Silver Economy Project TINCARE Workpackages: RM1 - A nurse-led tele-monitoring program for patients with chronic diseases; RM3 - Wearable devices to improve quality of life of elderly people.	Yes	I	01/10/2022	30/09/2025	P	Website: https://www.ecs-nodes.eu/

Teaching Activities in University Courses

Name of the course where the activity has been done	Course type	Course CFUs	Academic year	Role in course	number of hours of teaching <i>done</i>	CPD evaluation (if any)	Notes
Computer Science	B	8	2022/2023	E+L	30	3.41	
Challenge@Polito by Firms, Students from the future	M	8	2021/2022	T	23	NA	
Computer Science	B	8	2021/2022	E+L	27	3.45	
Computer Science	B	8	2020/2021	E+L	27	3.55	

Research Dissemination Activities

Dissemination activity name	Date	Link	Description	Notes
WORKSHOP "Multiuse smart stretchable patches " (Online)	17/05/2023	https://www.sintec-project.eu/multiuse-smart-stretchable-patches/	Invited Speaker	Speech title: Applications of Wearable Technologies in Healthcare
ANNUAL CONVENTION "World Parkinson's Disease Day" (In person, Turin)	13/04/2023	https://www.torinotoday.it/eventi/convegno-annuale-in-occasione-della-giornata-mondiale-della-malattia-di-parkinson-9879343.html	Invited Speaker	Speech title: Research projects at Politecnico di Torino
IEEE PhD's Pitch (In person, Turin)	22/02/2023	https://www.youtube.com/watch?v=URC8BqWAZcE	Speaker	Speech title: Wearable sensors and artificial intelligence for monitoring movement disorders
ANNUAL CONVENTION "World Parkinson's Disease Day" (In person, Turin)	19/04/2022	https://www.youtube.com/watch?v=jMODIHNHQcw	Invited Speaker	Speech title: Telemedicine and Parkinson
WORKSHOP "Biennial Technology for Schools"	08/02/2022	https://2022.biennaletecnologia.it/la-voce-e-il-movimento-miniere-di-dati-la-sorveglianza-remoto-dello-stato-di-salute-e-la-tele	Invited Speaker	Speech title: Voice and Movement
DAUIN PhD Day for Companies (Online)	24/11/2021	https://www.youtube.com/watch?v=aBxBCgVAZOU	Participant	
European Research Night (Online)	22/09/2021	https://2022.biennaletecnologia.it/la-voce-e-il-movimento-miniere-di-dati-la-sorveglianza-remoto-dello-stato-di-salute-e-la-tele	Speaker	Speech title: Voice and Movement

Awards

Award Description	Date	Type	Notes
PhD Quality Award	10/09/2022	PhD quality award	2 nd place

Editor's choice article	22/02/2023	Best paper award (or similar)	https://www.mdpi.com/1424-8220/21/2/614
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PhD thesis evaluation

Referee	Institution	Evaluation
Prof. Silvia Del Din	Newcastle University	A+ (top 5%)
Prof. Veronica Cimolin	Politecnico di Milano	A+ (top 5%)

Studies in cooperation with international authors

Article title	Year	International Authors	International Institution
Deep learning and wearable sensors for the diagnosis and monitoring of Parkinson's disease: A systematic review	2023	1. L. Sigcha 2. C. Ramos-Romero 3. A. Cardenas 4. L. Gasco from	1. University of Limerick, Ireland 2. University of Salford, United Kingdom 3. I2CAT Foundation, Spain 4. Barcelona Supercomputing Center, Spain
Context Recognition Algorithms for Energy-Efficient Freezing-of-Gait Detection in Parkinson's Disease	2023	L. Sigcha	University of Limerick, Ireland
Wearable Sensors for Supporting Diagnosis, Prognosis, and Monitoring of Neurodegenerative Disease	2023	F. Demrozi	University of Stavanger, Norway
Real-time detection of freezing of gait in Parkinson's disease using multi-head convolutional neural networks and a single inertial sensor	2023	1. D. Rodriguez-Martin 2. L. Sigcha	1. Universitat Politecnica de Catalunya, Spain 2. Universidad Politecnica de Madrid, Spain
Improvement of Performance in Freezing of Gait detection in Parkinson's Disease using Transformer networks and a single waist-worn triaxial accelerometer	2022	1. N. Costa, S. Costa, P. Arezes 2. L. Sigcha	1. University of Minho, Portugal 2. Universidad Politecnica de Madrid, Spain
Bradykinesia Detection in Parkinson's Disease Using Smartwatches' Inertial Sensors and Deep Learning Methods	2022	1. L. Sigcha, B. Dominguez, I. Pavon, J.M. Lopez, G. De Arcas 2. N. Costa, S. Costa, P. Arezes	1. Universidad Politecnica de Madrid, Spain 2. University of Minho, Portugal
A Multi-Modal Analysis of the Freezing of Gait	2022	1. W. Zhang 2. Y. Guo	1. Capital Medical University, China 2. Beihang University, China

Phenomenon in Parkinson's Disease			
An algorithm for Parkinson's disease speech classification based on isolated words analysis	2021	J.R. Orozco-Arroyanne	Universidad de Antioquia, Colombia