Eleonora Grassucci
Curriculum Vitae

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
University graduation	2017	Sapienza University of Rome	Bachelor Degree
University graduation	2019	Sapienza University of Rome	Master Degree
PhD	2023	Sapienza University of Rome	PhD Degree

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
2022	active	Sapienza University of Rome	Postdoctoral Research Fellow

IIIB – Other Appointments

Start	End	Institution	Position
2022	2023	Sapienza University of Rome	Publicity chair IEEE MLSP 2023
2019	2022	Bambino Gesù Hospital	Research Scientist
2019	2019	Skienda, Roma	Data Science course lecturer

Part IV – Teaching experience

Year	Institution	Lecture/Course
2022	Sapienza University of Rome	Teaching assistant for the course Teoria dei circuiti (Ingegneria delle comunicazioni)
2021	Sapienza University of Rome	Teaching assistant for the course Neural Networks (Artificial Intelligence and Robotics)
2021	Sapienza University of Rome	Teaching assistant for the course Machine Learning for Signal Processing (Electronics engineering)
2020	Sapienza University of Rome	Teaching assistant for the course Machine Learning for Signal Processing (Electronics engineering)

Part V - Society memberberships, Awards and Honors

Year	Title
2022	Best Track Paper Award by the IEEE Circuits and Systems Society for the paper "Efficient Sound Event Localization and Detection in the Quaternion Domain"
2019-active	IEEE Graduate Student Member

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Program	Grant value
2022	Increasing deep generative models reproducibility and expressivity through quaternion algebra (PI)	Avvio alla Ricerca, Sapienza University of Rome	2996 €

Part VII – Research Activities

Keywords	Brief Description
Quaternion Neural Networks	Eleonora Grassucci's research interests focus on the development of novel quaternion and hypercomplex neural networks for different tasks and applications including image and audio processing, with a focus also on novel methods for generative modelling .
Generative Models	
Hypercomplex Neural Networks	
Deep learning applications	

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	8	Scopus	2020	2023

Total Impact factor	25.44
Total Citations	20
Average Citations per Product	2.5
Hirsch (H) index	3
Normalized H index*	1

*****H index divided by the academic seniority.

Part IX– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

1. E. Grassucci, G. Mancini, C. Brignone, A. Uncini, and D. Comminiello, "Dual Quaternion Ambisonics Array for Six-Degree-of-Freedom Acoustic Representation", Pattern Recognition Letters, 166, pp.24-30, January 2023.
    - (IF: 4,757)
2. E. Grassucci, A. Zhang, and D. Comminiello, PHNNs: Lightweight neural networks via parameterized hypercomplex convolutions, IEEE Transactions on Neural Networks and Learning Systems, 1-13, December 2022.
    - (IF: 14,26, Citations: 1)
3. E. Grassucci, L. Sigillo, A. Uncini, and D. Comminiello, "Hypercomplex Image-to-Image Translation", in IEEE International Joint Conference on Neural Networks (IJCNN), July 2022.

4. C. Brignone, G. Mancini, E. Grassucci, A. Uncini, D. Comminiello, “Efficient sound event localization and detection in the quaternion domain”, IEEE Transactions on Circuits and Systems II: Express Briefs, vol. 69 no. 5, pp. 2453-2457, 2022.
    - (IF: 3,69, Citations: 2)
5. E. Grassucci, E. Cicero and D. Comminiello, “Quaternion Generative Adversarial Networks”, in Generative Adversarial Learning: Architectures and Applications, R. Razavi-Far, A. Ruiz-Garcia, V. Palade, and J. Schmidhuber, Springer International Publishing, pp. 57–86, 2022.
    - (Citations: 3)
6. E. Grassucci, D. Comminiello, and A. Uncini, “An Information-Theoretic Perspective on Proper Quaternion Variational Autoencoders”, Entropy 23, no. 7: 856, July 2021.
    - (IF: 2,74, Citations: 6)
7. E. Grassucci, D. Comminiello and A. Uncini, “A Quaternion-valued Variational Autoencoder”, in IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2021, pp. 3310-3314.
    - (Citations: 5)
8. E. Grassucci, S. Scardapane, D. Comminiello, and A. Uncini, “Flexible Generative Adversarial Networks with Non-Parametric Activation Functions”, in Progress in Artificial Intelligence and Neural Systems, Anna Esposito, Marcos Faundez-Zanuy, Francesco Carlo Morabito, Eros Pasero, Eds., vol. 184 of Smart Innovation, Systems and Technologies, ISBN: 978-981-15-5092-8, Springer, 2021.
    - (Citations: 3)