

Andrea Gargano

BIOMEDICAL AND BIONICS ENGINEER · PHD CANDIDATE IN SMART INDUSTRY

ADDRESS: 4, Via Buffalmacco, Pisa (PI), Italy

DATE OF BIRTH: June 29th, 1996

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Education

Dipartimento di Ingegneria dell'Informazione, Università di Pisa

Pisa, Italy

PH.D. CANDIDATE IN SMART INDUSTRY

2021/11 - present

- Supervisors: Dr. Nardelli Mimma, Prof. Scilingo Enzo Pasquale

Università di Pisa and Scuola Superiore Sant'Anna

Pisa, Italy

M.Sc. BIONICS ENGINEERING (7 EQF / LM-21)

2018/12 - 2021/04

- Curriculum: Neural Engineering
- Mark: 110/110 cum laude

Università di Pisa

Pisa, Italy

B.Sc. BIOMEDICAL ENGINEERING (6 EQF / L-8)

2015/09 - 2018/12

- Curriculum: Information Technologies
- Mark: 110 / 110

Istituto di Istruzione Secondaria Superiore Marini-Gioia

Amalfi (SA), Italy

SCIENTIFIC HIGH SCHOOL DIPLOMA (4 EQF)

2010/08 - 2015/07

- Mark: 100 / 100

Research Experience

Technischen Universität Darmstadt, Robust Data Science Group

Darmstadt (Hessen), Germany

ADVISOR: PROF. MICHAEL MUMA

2023/12 - 2024/07

- Visiting Ph.D. Candidate: "Robust Signal Processing of Physiological Signals for Affective Computing Applications"

Università di Pisa, Research Center "E. Piaggio"

Pisa, Italy

ADVISOR: PROF. ENZO PASQUALE SCILINGO

2021/05 - 2021/08

- Undergraduate Research Assistant (Scholarship): "Affective Computing for Human-Robot Interaction Applications"

Università di Pisa, Dipartimento di Ingegneria dell'Informazione

Pisa, Italy

ADVISORS: DR. COMINELLI LORENZO, PROF. SCILINGO ENZO PASQUALE

2020/10 - 2021/04

- M.Sc. Thesis: "Development and Implementation of a Cognitive-Affective Model to Design the Personality of Social Robots"

Università di Pisa, Dipartimento di Ingegneria dell'Informazione

Pisa, Italy

ADVISORS: DR. POLI DANIELE, PROF. TOGNETTI ALESSANDRO

2018/09 - 2018/11

- B.Sc. Thesis: "Characterization of the Electrophysiological Activity of Neuronal Networks Coupled to Micro-Electrode Arrays"

Professional Experience

ADATEC s.r.l. and Dipartimento di Ingegneria dell'Informazione - Università di Pisa

Navacchio (PI), Italy

ADVISORS: DR. TESCONI MARIO, DR. CARBONARO NICOLA, PROF. TOGNETTI ALESSANDRO

2019/05 - 2019/11

- R&D Traineeship, Regional Project Ki-Foot: Testing and Validation of a Custom Pressure Sensor for a Sensorised Shoe.

Publications

* first author

- INTERNATIONAL JOURNALS

L. Lavezzo*, **A. Gargano**, E. P. Scilingo, M. Nardelli, “Zooming into the Complex Dynamics of Electrodermal Activity Recorded during Emotional Stimuli: A Multiscale Approach,” in *Bioengineering*, vol. 11, no. 6, pp. 520, 21 May 2024, doi: 10.3390/bioengineering11060520

N. Biasi*, **A. Gargano***, L. Arcarisi, N. Carbonaro and A. Tognetti, “Physics-Based Simulation and Machine Learning for the Practical Implementation of EIT-Based Tactile Sensors,” in *IEEE Sensors Journal*, vol. 22, no. 5, pp. 4186-4196, 1 March 2022, doi: 10.1109/JSEN.2022.3144038

- INTERNATIONAL AND NATIONAL PROCEEDINGS

A. Gargano*, E. P. Scilingo, M. Nardelli, “Comparing Valence-Arousal and Positive-Negative Affect Models of Affect: a Nonlinear Analysis of Continuously Annotated Emotion Ratings,” *IFMBE Proceedings*, vol. 93. Springer, Cham. *16th Mediterranean Conference on Medical and Biological Engineering and Computing (MEDICON) and the 5th International Conference on Medical and Biological Engineering (CMBEBIH)*, Sarajevo, Bosnia-Herzegovina, 2023, doi: 10.1007/978-3-031-49062-0_10.

A. Gargano*, L. Cominelli, C. Vannucci, L. Cecchetti, E. P. Scilingo, “Preliminary personality model for social robots based on the Cognitive-Affective Processing System theory,” *2022 IEEE International Conference on Metrology for Extended Reality, Artificial Intelligence and Neural Engineering (MetroXRINE)*, Rome, Italy, 2022, pp. 223-228, doi: 10.1109/MetroXRINE54828.2022.9967695.

A. Gargano*, E. P. Scilingo, M. Nardelli, “The dynamics of emotions: a preliminary study on continuously annotated arousal signals,” *2022 IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Messina, Italy, 2022, pp. 1-6, doi: 10.1109/MeMeA54994.2022.9856489.

Presentations

* presenting author

CONTRIBUTED PRESENTATIONS

A. Gargano*, M. Nardelli, E. P. Scilingo, “Physiological and Emotional-Annotated Time Series Analysis for Affective Computing Applications,” (2024) Oral presentation at: *5th Statistical Learning for Signal and Image Processing (SLSIP) Workshop*, Porquerolles, France.

A. Gargano*, E. P. Scilingo, M. Nardelli, “Comparing Valence-Arousal and Positive-Negative Affect Models of Affect: a Nonlinear Analysis of Continuously Annotated Emotion Ratings,” (2023) Oral presentation at: *16th Mediterranean Conference on Medical and Biological Engineering and Computing (MEDICON) and the 5th International Conference on Medical and Biological Engineering (CMBEBIH)*, Sarajevo, Bosnia-Herzegovina.

A. Gargano, L. Cominelli, C. Vannucci, L. Cecchetti, E. P. Scilingo*, “Preliminary personality model for social robots based on the Cognitive-Affective Processing System theory,” (2022) Oral presentation at: *IEEE International Conference on Metrology for Extended Reality, Artificial Intelligence and Neural Engineering (MetroXRINE)*, Rome, Italy.

A. Gargano*, E. P. Scilingo, M. Nardelli, “The dynamics of emotions: a preliminary study on continuously annotated arousal signals,” (2022) Oral presentation: *IEEE International Symposium on Medical Measurements and Applications (MeMeA)*, Messina, Italy.

A. Gargano*, E. P. Scilingo, M. Nardelli, “Discrimination of Boredom: Insight from Entropy Analysis of Annotated Ratings of Emotions” (2022) Poster: *Dynamics and Complexity Pisa (DCP22)*, Pisa, Italy.

Teaching Experience

2022/2023 - 2023/2024	Bionics Senses (M.Sc. Bionics Engineering) , Teaching Assistant (10 hours)	<i>Università di Pisa</i>
2023/2024	Sensi Naturali e Artificiali (B.Sc. Ingegneria Biomedica) , Teaching Assistant (10 hours)	<i>Università di Pisa</i>

Mentoring

2022	Mirea Scarselli , B.Sc. Thesis Student, B. Sc. Biomedical Engineering	<i>Università di Pisa</i>
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Outreach & Professional Development

DEVELOPMENT:

ADI Pisa, 2024

Vice-coordinator of the local branch of ADI.

Presidio della Qualità di Ateneo, Università di Pisa, 2024

Ph.D. Candidates representative.

Ph.D. Course in Smart Industry, 2024

Ph.D. Candidates representative.

BRIGHT-NIGHT, 2022-2023

Coordinator of the workshop “Ingegneria delle emozioni”.

Dissemination activity in the framework of the BRIGHT-NIGHT project, a European Researchers’ Night project (GA 101061075).

PEER REVIEW:

IEEE Transactions on Affective Computing

Eighth National Congress of Bioengineering – Proceedings 2023

PROFESSIONAL MEMBERSHIPS:

(2023 - present) Associazione Dottorandi e Dottori di Ricerca in Italia (ADI), local branch Pisa

(2022 - present) IEEE Young Professionals: Graduate Student Member

(2022) IEEE Instrumentation and Measurement Society: Graduate Student Member

(2021 - present) IEEE Society: Graduate Student Member

LICENSES *and* CERTIFICATES:

2023/07/08	Certificate in Advanced English (CAE) Cambridge Certification, Score 199, C1 CEFR Level , Cambridge University Press and Assessment
2023/04	English for Research Publication Purposes and Research Presentation Purposes (C1+ Level) , CLI - Università di Pisa
2022/05	English for Research Publication Purposes and Research Presentation Purposes (C1 Level) , CLI - Università di Pisa
2021/11	Qualification to the Profession of Engineer (<i>Information Technologies</i>) , Scuola di Ingegneria - Università di Pisa

TECHNICAL SKILLS:

Data Analysis:	Matlab (Advanced), Python (Basic), Microsoft Excel (Basic), R (Beginner)
Signal Processing:	Matlab (Advanced), LabVIEW (Basic)
Expert Systems:	CLIPS (Intermediate)
FEM Analysis:	COMSOL (Intermediate), Ansys Workbench (Beginner)
Operative Systems:	Windows (Intermediate), Linux (Beginner)
Others:	Microsoft Office (Advanced), Latex (Advanced)

LANGUAGE SKILLS:

Italian	Native
English	Professional (C1 Level)
German	Beginner

Signature

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Darmstadt, 22/05/2024