

Luigi Borzi

Biomedical Engineer

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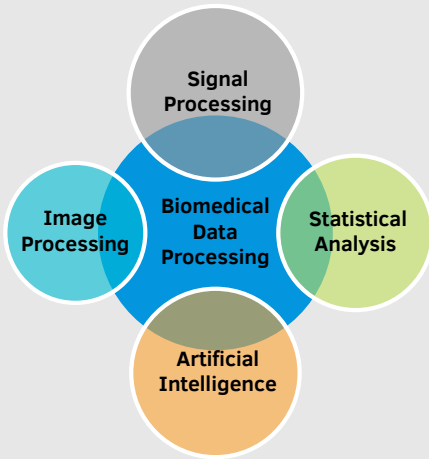
Turin, Italy

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/in/luigi-borzi

Technical Skills

Overview



Programming

0 LOC —————> 5000 LOC

Python • Matlab C

HTML • SQL • LaTeX

Assembler • C • C++

Education

MSc, Biomedical Engineering

Politecnico di Torino
2015 - 2018 | Turin, Italy

BEng, Biomedical Engineering

Politecnico di Torino
2011 - 2015 | Turin, Italy

Diploma of Scientific High school, PNI

High school "Enrico Fermi"
2006-2011 | Paternò (CT), Italy

Research Experience

May 2019

-Present

PhD Student

Department of Control and Computer Engineering, Politecnico di Torino
Department of Neuroscience, "Città della salute e della scienza", Turin

- *Project title:* "A platform for the home management of patients with Parkinson's disease".
- *Description:* Remote monitoring of PD clinical condition during Activities of Daily Living using Wearable Technology and Artificial Intelligence.
- *Supervisor:* Prof. Gabriella Olmo.

Oct 2018

-May 2019

Research Fellow

Department of Control and Computer Engineering, Politecnico di Torino
Department of Neuroscience, "Città della salute e della scienza", Turin

- *Project title:* "Technological aids for the home management of patients with Parkinson's disease".
- *Description:* Automated clinical evaluation of Parkinson's Disease motor symptoms using Smartphones and Machine Learning techniques.
- *Supervisor:* Prof. Gabriella Olmo.

Research Skills

Expertise

- Movement Analysis
- Wearable sensors • Artificial Intelligence
- Experimental protocol definition • Feasibility study
- Writing scientific papers • Report preparation

Technological Tools

- *Data processing:* •Preprocessing •Transformation •Mining
- Interpretation •Statistical analysis.
- *Artificial Intelligence:* •Algorithms implementation
- Parameters Optimization •Performance Evaluation.

Publications

- F. Amato, **L. Borzi**, G. Olmo, J. R. Orozco-Arroyave. "An algorithm for Parkinson's disease speech classification based on isolated words analysis". Health Information Science Systems, 2021.
- I. Rechichi, M. Zibetti, **L. Borzi**, G. Olmo, L. Lopiano, "Single-channel EEG classification of sleep stages based on REM microstructure". Healthcare Technology Letters, 2021.
- **L. Borzi**, I. Mazzetta, A. Zampogna, A. Suppa, G. Olmo, F. Irrera, "Prediction of Freezing of Gait in Parkinson's Disease Using Wearables and Machine Learning". Sensors, 2021.
- **L. Borzi**, G. Olmo, C. A. Artusi, M. Fabbri, M. G. Rizzone, A. Romagnolo, M. Zibetti, L. Lopiano, "A new index to assess turning quality and postural stability in patients with Parkinson's disease". Biomedical Signal Processing and Control, 2020.
- **L. Borzi**, G. Olmo, C.A. Artusi, L. Lopiano, "Detection of Freezing of Gait in Parkinson's disease using Smartphones". IEEE Conference on Computers, Software and Applications, 2020.

- **L. Borzi**, S. Fornara, F. Amato, G. Olmo, C.A. Artusi, L. Lopiano, "Smartphone-Based Evaluation of Postural Stability in Parkinson's Disease Patients During Quiet Stance".
Electronics, 2020.
- **L. Borzi**, M. Varrecchia, S. Sibille, G. Olmo, C. A. Artusi, L. Lopiano, "Smartphone-based estimation of item 3.8 of the MDS-UPDRS-III for assessing leg agility in people with Parkinson's disease".
IEEE Open Journal of Engineering in Medicine and Biology, 2020.
- **L. Borzi**, M. Varrecchia, G. Olmo, "Deep learning for Parkinson's disease: a case study on Freezing of Gait".
IEEE Austria International Biomedical Engineering Conference, Vienna, 2019.
- **L. Borzi**, G. Imbalzano, C. A. Artusi, G. Olmo, L. Lopiano, "Detection of Freezing of Gait in Parkinson's disease using Smartphones".
50° Italian Neurology Congress, Bologna, 2019.
- **L. Borzi**, M. Varrecchia, G. Olmo, C. A. Artusi, M. Fabbri, M. G. Rizzone, A. Romagnolo, M. Zibetti, L. Lopiano, "Home monitoring of motor fluctuations in Parkinson's disease patients".
Journal of Reliable Intelligent Environments, 2019.