Jessica Leoni

Curriculum vitae

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I am a curious person, constantly searching for the causes and implications of every phenomenon. In engineering and machine learning, I have found the techniques and methods to answer my questions effectively and on a scientific basis.

Skill Highlights

Hard Skills	Machine Learning, Functional Data Analysis, Data Visualization, Data Analysis, Features Engineering
Programming Languages	Python, Matlab, C, C++, SQL, LaTeX, Scratch, Bash
Software	Jupyter Notebook, XCode, Matlab, Office Suite, Keynote
Languages	Italian (native language), English (C1)
Soft Skills	Team working, problem solving, time management, public speaking, effective scientific communication

Education

Nov 2019 - Ongoing	**PhD. in Data Analytics and Decision Science**, *Politecnico di Milano*, Milan (Italy)
Jan 2018 - Aug 2019	**M.Sc. in Bioengineering**, Double Degree Program, *University of Illinois at Chicago*, Chiacago (USA)
Sep 2017 - Jul 2019	**M.Sc. Information Bioengineering**, *Politecnico di Milano*, Milan (Italy). Final grade: 110L/110
Oct 2014 - Jul 2017	**B.Sc. in Biomedical Engineering**, *Politecnico di Milano*, Milan (Italy). Final grade: 110L/110
Sep 2009 - Jul 2014	**Scientific Diploma**, *Liceo Scientifico Lorenzo Mascheroni*, Bergamo (Italy)

Certifications and Awards

Mar 2022	**Winner of Sedici Media Call "Il Futuro Parte da Qui"**, *with the project FairMOVE, artificial intelligence for a smart, multimodal, sustainable and inclusive mobility.*
Jan 2022	**Winner of Leonardo's "Solvers Wanted" Competition**, *with the project PoliMonitor, an embedded platform for the active monitoring of the pilot's psychophysical condition.*
Jul 2021	**Esame di Stato, Senior Engineer**, *Politecnico di Milano, Milan (Italy). Final grade 96/100.*
June 2020	**RegML2020 - Regularization Methods for Machine Learning**, *Uiversità di Genova and MIT*
May 2020	**Advanced Machine Learning and Signal Processing** by IBM, *Coursera ID:DCE9363RC4AZ*
May 2020	**Ethics in Data Science** by University of Michigan, *Coursera ID:64VK52G4WGZY*
May 2020	**Introduction to Psychology** by Yale University, *Coursera ID:PSUHKVDDU99Q*
May 2020	**Neural Networks and Deep Learning** by Deeplearning.ai, *Coursera ID:JA4RJ79EUAEP*
Apr 2020	**Introduction to Data Science in Python** by University of Michigan, *Coursera ID:CQ6GFXL6M3TK*
Apr 2020	**Introduction to Philosophy** by University of Edinburgh, *Coursera ID:ZJHY7MGR6JTC*

Work Experiences

Jan 2022 - Ongoing	Coding Girls - Mobile Application and AI Tools Development Tutor
2019 - Ongoing	Teaching Assisent in Fundamentals of C Programming, Politecnico di Milano
2019 - Ongoing	Teaching Assisent in Fundamentals of Automatic Control, Politecnico di Milano
June 2021	Girls in Control Workshop IFAC - Scratch Tutor
May 2019	Hackathon STEM @ENI - Scratch Tutor and Organizer

Research

Industrial Partner: Leonardo SpA Helicopter Division	**Active Monitoring of the Pilot's Psychophysical Condition**, *I developed an hardware-software prototype of an embedded system for active monitoring of the pilot's psychophysical status, integrating stress and behavior estimates with information about the cabin environment. Several image and signal processing techniques were used to extract the features of interest, combined through machine-learning algorithms to produce the continuous and reliable index..*

Industrial Partner: Leonardo SpA Helicopter Division	**Health and Usage Monitoring in Helicopters**, *I designed some functionalities for a health and usage monitoring system for helicopters for diagnostic and prognostic purposes. In detail, I designed an ensemble of autoencoders for diagnostics and prognostics of the transmission system's components. I also implemented an engine monitoring system and an unsupervised algorithm for recognizing and tracking maneuvers performed during the flight..*
Industrial Partner: Edison SpA	**Secure eScooters Mobility**, *In this project, I designed machine-learning based functionalities aimed at determining the state of wear and tear of an electric scooter and ensuring user safety, as road quality and driving style riskiness estimation, and second passenger detection..*
In collaboration with Università Bicocca, Milan	**ERP-based Brain Computer Interface**, *The produced system, based on deep learning techniques, is capable of translating EEG depolarizations in the stimulus the subject was focusing on..*

Publications

June 2021	J. Leoni, M. Tanelli, S.C. Strada, K. Jiang,A. Brusa, A. Mado Proverbio. Automatic stimuli classification from ERP data for augmented communication via Brain-Computer Interfaces Expert Systems With Applications, IEEE
May 2020	J. Leoni, A. Ciallella, L. Stornaiuolo, M.D. Santambrogio, D.Sciuto. EMPhASIS - An EMbedded Public Attention Stress Identification System RAW - Reconfigurable Architecture Workshop
May 2020	J. Leoni, M. Tanelli, S.C. Strada, T. Berger-Wolf. Ethogram-based automatic wild animal monitoring through inertial sensors and GPS data Ecological Informatics, Elsevier
Sept 2020	J. Leoni, M. Tanelli, S.C. Strada, T. Berger-Wolf. Data-Driven Collaborative Intelligent System for Automatic Activities Monitoring of Wild Animals ICHMS - 1st IEEE International Conference on Human-Machine Systems
Sept 2020	J. Leoni, M. Tanelli, S.C. Strada, K. Jiang,A. Brusa, A. Mado Proverbio. Evoked Potentials Recognition for an Effective Brain Computer Interface ICHMS - 1st IEEE International Conference on Human-Machine Systems

Professional Memberships

Sep 2019 - Ongoing	mOve Research Team Member, Politecnico di Milano, Milan (Italy)
Feb 2017 - Ongoing	IEEE Women in Engineering Student Branch Affinity Group of Politecnico di Milano Member
Jan 2017 - Ongoing	IEEE Women in Engineering Member
Mar 2017 - Ongoing	IEEE Student Member, IEEE Young Professionals Member, IEEE Computer Society Member and IEEE Engineering in Medicine and Biology Society Member
Sep 2016 - Ongoing	NECSTLab Member, Novel Emerging Computing System Technologies Laboratory, Politecnico di Milano, Milan (Italy)

Other Activities

Sep 2009 - Aug 2015	**Athlete and Volunteering as Teacher**, *Karate Basella*, Urgnano (BG), Italy, *I have learned to keep calm even in stressful situations, and to endure mentally and physically challenging situations. Also I had the opportunity to teach these skills to youngest athletes..*
Aug 2015 - Aug 2017	**Volunteering**, *Croce Rossa Italiana*, *During this volunteering period I developed the ability to handle emergency situations with rationality, the ability to cooperate within a group even under pressure and empathy towards others..*

Personal Interests

Hobbies	**Climbing and Travelling**, *I aim to climb outside of the gym, on walls, by the end of the year. Also, I have visited most of Europe and North America. Therefore, I aim to explore Asia and South America during this year..* **Hackathon**, *I appreciate hackathons as a challenging opportunity to meet new people who share my passions, and I come out each time with a greater awareness of myself and my abilities. In 2017 I took part in two Xilinx Pynq Hackathons, at Politecnico. In 2018 I took part in Chicago Bosh Mobility Hackathon, and in 2019 in Milan Critical Care Datathon at Humanitas, an hospital placed near Milan..*