Nunzio Alexandro Letizia

Curriculum Vitae

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Nunzio A. Letizia

Personal information

first name	Nunzio Alexandro
last name	Letizia
place and date of birth	Udine (Italy), August 11, 1994
about me	I am a motivated, competitive and ambitious person. I can work individually and in teams. Every problem constitutes a challenge and I approach them with a curious and positive attitude.

Education

Dec. 2018 - Present **PhD in Machine Learning for Communications at University of Klagenfurt**, Institute for Networked and Embedded Systems.
Advisor: Prof. Andrea M. Tonello

Oct. 2018 **Master Degree in Electronics Engineering Curriculum Telecommunications at Università degli Studi di Udine**.
Final Mark: 110/110 cum Laude
Thesis : "Compressive Sensing of Cardiac Data"
Supervisors: Prof. Gari D. Clifford, Prof. Roberto Rinaldo and Dr. Giulia Da Poian

March - July 2018 **Master Degree Thesis Research at Emory University**.
Work on Compressive Sensing of cardiac data and detection of systolic peaks in a PPG signal in the department of biomedical informatics

July 2016 **Bachelor's Degree in Electronics Engineering at Università degli Studi di Udine**.
Final Mark: 110/110 cum Laude
Thesis : "Acquisizione di segnali con tecniche di Compressive Sensing"
Supervisors: Prof. Roberto Rinaldo and Dr. Giulia Da Poian

Sept. 2013 - Oct. 2018 **School for Advanced Studies of the Università degli Studi di Udine**.
5 years full scholarship of excellence, high-level educational path

July 2013 **High School Diploma**.
Scientific studies at Liceo Scientifico N.Copernico of Udine

Work Experience

Aug. 2020 - Present **Software Lead Developer of the PiktID Project**.
Working with machine learning state-of-the-art techniques to seamlessly substitute human faces in pictures with artificial generated ones

June 2019 - Present **Assessment of G3-PLC technology improvements**.
Analysis of large datasets to discover topology patterns and routing anomalies

Dec. 2018 - Present **University Teaching Assistant**, University of Klagenfurt.
- Digitale Signalverarbeitung (*Digital Signal Processing*)
- Nachrichtentechnik (*Signal Theory*)
- Signal Processing for Communications

2013 - 2018 **Teaching Experience at Mathematics Olympic Preparation Courses**.
Topics covered: Calculus, Algebra and Number Theory

Selected Journal Publications

June 2021 **Capacity-Driven Autoencoders for Communications**, IEEE Open Journal of the Communications Society.

Febr. 2021 **A Novel Recursive Smooth Trajectory Generation Method for Unmanned Vehicles**, IEEE Transactions on Robotics.

Dec. 2020 **Segmented Generative Networks: Data Generation in the Uniform Probability Space**, IEEE Transactions on Neural Networks and Learning Systems.

July 2019 **A low-complexity photoplethysmographic systolic peak detector for compressed sensed data**, Physiological measurement.

June 2019 **Machine Learning Tips and Tricks for Power Line Communications**, IEEE Access.

Selected Conference Papers

Oct. 2021 **Capacity Learning for Communication Systems over Power Lines**, IEEE International Symposium on Power Line Communications and its Applications (ISPLC), Aachem.

May 2020 **Supervised Fault Detection in Energy Grids Measuring Electrical Quantities in the PLC Band**, IEEE International Symposium on Power Line Communications and its Applications (ISPLC), Malaga.

March 2020 **A New Recursive Framework for Trajectory Generation of UAVs**, IEEE Aerospace Conference, Yellowstone.

Oct. 2019 **Synthetic Power Line Communications Channel Generation with Autoencoders and GANs**, IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids (SmartGridComm), Shanghai.

Fellowships and Awards

Oct. 2021 **ISPLC 2021 Best Paper Award**.

July 2016 **Best Graduated Student of the Electronics Engineering Curriculum**.

Dec. 2014 **"Marinella Panozzo" Scholarship**.
Best Freshman in Electronics Engineering Degree

Sept. 2013 - Oct. 2018 **Scholarship of Excellence at Scuola Superiore dell'Università degli Studi di Udine**.

May 2013 **Bronze Medal at Italian Mathematics Olympics**.

Interests and Competences

Soft Skills.

Problem solving, critical and creative thinking, interpersonal and communication skills

Hard Skills.

- Programming and software skills: Python (NumPy, Scikit-Learn, Keras, TensorFlow, PyTorch), Matlab, C, Javascript, HTML, LaTeX, GitHub, Office, AWS services
- Expertise: High-level math, advanced statistics, data visualization, statistical modeling, machine learning, deep learning, generative models, signal processing, physical layer communications, information theory

Languages.

Italian (native), english (fluent), spanish (fluent), german (A2)

Klagenfurt, January 16, 2022