Francesco Leporati – Short CV

Francesco Leporati was born in Parma (Italy) on November 9th, 1963. He achieved the Laurea degree in Electronics Engineering at the Computer Science Dept. of the University of Pavia on 1988 and the PhD degree in Electronics and Computer Engineering, at the Computer Science Dept. of the University of Pavia on 1993. At now he is associate professor at the Electrical, Computer Science and Biomedical Dept. of the University of Pavia where he teaches the courses of Mechatronics for the Informatics Bachelor degree students and of Industrial Informatics and Embedded Systems, Digital Systems Design and Parallel Programming for the students of the Master Degrees in Computer Engineering, Industrial Automation and Bioengineering.

The research activity of Francesco Leporati concerns the design and the implementation of architectures for high performance computing, in particular exploiting DSP, GPU and FPGA technologies, applied to parallel computing and special purpose computers, Signal and image processing, Automotive applications, Biomedical instrumentation and (hyperspectral) imaging.

Francesco Leporati worked and works with the different companies (Neuricam inc., Ferrari inc., Marelli Motorsport, ST Microelectronics, Leonardo) and public research institutions (INFM, CNR, INFN, …).

Among the research projects in which Francesco Leporati was involved, we mention:
- **Stratum (3D Decision Support Tool for Brain Tumor Surgery)**: development of a 3D Decision Support Tool for brain surgery guidance and diagnostics (reaching TRL7) based on multimodal data processing through Artificial Intelligence (AI) algorithms that will be integrated as an energy-efficient Point-of-Care computing tool
- **Human Brain Project**: modelisation and simulation of cerebellar networks on high-performance computing systems (in collaboration with the Mondino institute and the University of Manchester)
- **Helicoid**: detection and classification of hyperspectral images of brain tumors (in collaboration with the University of Las Palmas)
- **Social Innovation Project SIN_00639** - "Distributed monitoring of water quality in real time through lab-on-chip": design and development of a lab-on-chip for real-time detection of harmful substances present in wastewater (collaboration with Bicocca University of Milan)
- High speed wireless optical system for motorsport data logger: study and development, in collaboration with Magneti Marelli, of a high speed data transmission system for automotive motorsport competition.
- **Home of IoT**: design and development of a real-time fall detection module using deep learning for a wearable system. Project financed by the Lombardy Region
- **Smart Living** - Intelligent Personal Health and Safety Domotic Monitoring (IPSHDM). Design and development of wearable and low-power sensors, with intelligent monitoring of the general conditions and health status of the person based on artificial neural networks. Project financed by the Lombardy Region

He is reviewer of several ACM or IEEE journals and collaborates with Elsevier Microprocessors and Microsystems Editorial Board where he serves as Handling Editor in the Subject Areas of FPGA-based Systems and Applications and Biomedical Applications.
Since January 2022, he is Co-Editor in Chief for the Special Issues management and editing.

Francesco Leporati was General and Program Chair of the IEEE/Euromicro Conferences on Parallel and Distributed Processing (Mantova, 2001 and Pavia 2019) and of the IEEE/Euromicro on Software Engineering and Advanced Applications and on Digital System Design (SEEA/DSD) held in Parma on September 2008, in Verona (2014) and in Palermo (2021).

In the same conference he is Chair of the two Special Sessions devoted to European Projects in Digital Systems Design (since 2012) and Advanced Systems for Health Wellness and Personal Monitoring (2015).

He is member of the Euromicro Society (Director of Italian correspondents and General Secretary).
He is Faculty Advisor for the Master Degree in Computer Engineering of the University of Pavia.
He is author of around 110 publications on indexed journal, conferences, books.

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List of main publications (journal) of Francesco Leporati

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