ARTIFICIAL INTELLIGENCE

MUR DM 118 - Advanced AI-based solutions for enhancing human-machine interaction in neurorobotic devices for industry 4.0

Funded By	MINISTERO DELL'UNIVERSITA' E DELLA RICERCA [P.iva/CF:97429780584] UNIVERSITA' DEGLI STUDI DI PADOVA [P.iva/CF:00742430283]
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Context of the research activity	Development of innovative Human-Machine Interfaces based on decoding the operator's cognitive state in real time. Progetto finanziato nell'ambito del PNRR – DM 118/2023 - CUP E14D23001810006
Objectives	The Ph.D. student will develop innovative Human-Machine Interfaces based on decoding the operator's cognitive state in real-time. HMI applications to industrial production, intelligent transportation vehicles, and exoskeletons have not yet been explored. HMIs can ensure safety and improve production processes in Industry 4.0. Neural correlates of cognitive states will be investigated in collaboration with neurologists to enhance the coupling between the user and the machine.
Skills and competencies for the development of the activity	The ideal candidate is expected to have a Master's degree in Computer Engineering. He/she should have demonstrable experience in computer vision and artificial intelligence for robotics applications as well as in the real-time analysis of neurophysiological signals applied to the field of brain-machine interfaces. The candidate should be fluent in English to present his/her research at international conferences and top-tier media outlets.