ARTIFICIAL INTELLIGENCE

PNRR - Learning and optimization approaches for smart Electrical Vehicles

Funded By	MINISTERO DELL'UNIVERSITA' E DELLA RICERCA [P.iva/CF:97429780584] Politecnico di TORINO [P.iva/CF:00518460019]
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Context of the research activity	This Ph.D. program addresses fundamental and applied research in learning and optimization for complex socio-technical systems, with a particular focus on developing intelligent charging and navigation solutions for electric vehicles (EVs). Progetto finanziato nell'ambito del PNRR PNRR M4C2, Investimento 1.3 - Avviso n. 341 del 15/03/2022 - PE0000013 Future Artificial Intelligence Research (FAIR) - CUP E13C22001800001
Objectives	This Ph.D. program addresses fundamental and applied research in the domains of learning and optimization for complex socio-technical systems, with a particular focus on the development of intelligent charging and navigation solutions for electric vehicles (EVs). The candidate will develop novel robust optimization methodologies and uncertainty models for minimizing the cost of charging EVs under the uncertainty of fluctuating electricity prices, considering drivers' behavior, interaction with renewable energy networks, and complementing traditional optimization approaches with advanced AI techniques. The project incorporates ad-hoc strategic collaborations with top-level industrial partners (EDF, VinFast) and aims to contribute to the development of more sustainable and intelligent transportation systems that can address the challenges of urban mobility and reduce the environmental impact of transportation.
Skills and competencies for the	Candidates should have a strong background in mathematical engineering, as well as a high motivation to learn through advanced research. Expertise in optimization and machine learning and good programming skills are required.

| **for the development of the activity** | Attitude for team working and problem-solving skills are also appreciated. An interest in economic and business models is a plus. Availability for spending research periods abroad is required. |