

ARTIFICIAL INTELLIGENCE

PNRR - Reliable and large-scale visual geolocalization

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	Develop scalable visual geolocalization solutions that can cope with the domain shift. 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	Visual geolocalization is the task of predicting the coordinates where an image was captured from its visual content. Typically this task is performed as an image retrieval problem. Still, a major challenge in this formulation is scaling it to large environments while maintaining reliability to changing environments and other domain shifts. The goal of this project is to develop scalable visual geolocalization solutions that are able to cope with the domain shift.
Skills and competencies for the development of the activity	The project requires machine learning and deep learning knowledge, with all their prerequisites (statistics, mathematics, optimization, etc.). Moreover, it requires good experience with Python and PyTorch (other deep learning frameworks, such as Tensorflow or PyTorch Lightning, are considered a plus). The candidate should also be proactive, and self-driven to study and read the most recent literature.