

Participation to research projects:

1. Research contract funded by **SIPAL S.p.a.**, “Strumenti innovativi per l’ingegneria mediante tecniche di realtà aumentata”, 2019-2020.

The aim was to support the company in the identification of use cases and related technologies that can be relevant for the application of AR to the engineering context. The research also required to design and develop some of these use cases by pursuing innovative approaches and to validate their effectiveness through proper experiments. My contribution to the activities has been related to the review of the state of the art and to the identification of representative use cases and AR products / technological solutions to be further analyzed.

2. Project: **PITEM RISK – ACT**, supported by Regione Piemonte under the INTERREG Francia-Italia ALCOTRA 2014-2020 program

Funded: Yes, Regione Piemonte

Description and Role: The aim is to design and implement a Virtual reality automatic training and assessment system (VRTS) to train ‘Protezione Civile’ operators for the High Capacity Pumping (HCP) procedure. So far, my contribution to the activities has been related to the design aspects of the VRTS, including aspects related with virtual equipment and tool interactions.

3. Project: “Sviluppo di processi innovativi supportati da soluzioni tecnologiche emergenti” (2021)

Funded: Yes, Reale Mutua Assicurazioni

Description and Role: The aim is to design and implement a system to detect damage in insured objects (i.e., bikes) by comparing photos w/ and w/o damage by leveraging machine learning. My contribution has been related to the definition and implementation of a pipeline for generating a synthetic dataset by means of computer-generated images (CGI).

4. Project: "Trustable and comfortable driving on autonomous vehicles" (2021-2022)

Funded: Yes, CRF - Stellantis

Description and Role: The objective of the project is to study a broad set of HMI solutions to tackle the problem of passengers' trust in autonomous vehicles. Firstly, my contribution consisted of supporting master thesis students involved in the project in the analysis of the state-of-the-art of the field. The most promising solutions have been selected for implementation in a simulated VR environment, and evaluated using both qualitative and quantitative techniques by running a user study.