Challenge@PoliTo_*By Firms*

Visual Recognition for Assisted Maintenance _By Leonardo

March – June 2022

CALL for IDEAS

Inspection, testing and maintenance operations are performed on vehicle (aircraft, car, truck) by qualified operators and technicians. Such operations often represent a heavy workload for the operators, impeding efficiency and promoting human errors. This is aggravated for maintenance activities on equipment or area/structures difficult to access, such as engines, wings or undercarriage assemblies.

New technologies, associated with the so-called 3rd (digital) and 4th (cyber) industrial revolutions, offer great insights for improving maintenance, repair and overhaul activities across several domains, particularly in aerospace.

Leonardo, global leader in Aerospace, Defence and Security is exploiting such innovative technologies in Customer Support & Services area which includes the development and integration of a specific Assisted Maintenance Tool dedicated to support aircraft technicians in their work. The development of the Assisted Maintenance Tool aspires, in particular, to take advantage of innovative and emerging technologies, which include:

• Visual recognition
• Supported and Augmented Reality
• Modelling & Simulation
• Big data
• Artificial Intelligence
• Cyber Security

The goal of the Challenge is to support Leonardo Aircraft Division in the development of the Assisted Maintenance Tool, conceiving a digital solution that, through appropriate smart mobile devices, is able to recognize an object automatically. The system will need to provide the maintenance technician remote and secured access and navigation to relevant technical information residing in a proprietary database, such as maintenance procedures or historical maintenance and logistics data.

Cross-cutting technical challenges are associated with the development of this tool, mainly:
• Mobile smart devices;
• Augmented Reality;
• HW&SW integration;
• Cybersecurity;
• Artificial Intelligence.

The multidisciplinary teams will therefore compete to produce solutions.

The Challenges are worth 8 curricular or extra-curricular credits. Check the curriculum of your degree programme to verify if you have the possibility to choose a Challenge in substitution of your free choice credits.

Check your institutional email, look for 'Challenge@PoliTo' and read the regulation carefully.
SIGN UP NOW! Places are limited!
For any questions, write to clik@polito.it

Politecnico di Torino
1859

Technology Transfer System

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