

Claire Pagetti - towards AI-based applications certification

The chair targets the aeronautical domain and highly safety-critical systems. Its main focus concerns the implementation and safety assurance aspects of ML-based systems where the ML algorithms are off-line trained neural networks. The main accomplishments of the chair are - active participation to the EUROCAE WG-114/ SAE G-34 standardization group on a first usable guidance to develop ML-based systems -- namely ARP6983. These new guidelines cover the whole spectrum of the system development including the data sets composition, the ML model design and its implementation; the definition of an implementation process, as promoted by the ARP6983 standard, that ensures the semantics preservation of the off-line trained model on the final hardware platform and the capacity to compute WCET (Worst-Case Execution Time); - the design of runtime verification approaches that allow to detect Out-of-Model-Scope (OMS) inputs; active contribution to LARD dataset design; development of the verification library DECOMON.

