HARVIS: smart assistant for Non-Stabilized Approaches

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Within the CleanSky 2 framework, the HARVIS project aims to identify how cognitive computing algorithms implemented in a digital assistant could support the decision making process of a single pilot in complex situation at 2035+ horizon.

Go-around prediction

Thanks to machine learning algorithms, the assistant detects situations in which a go-around is needed. Its training is based on the classification of over 750 final approaches by 28 Commercial Air Transport pilots.

SPO introduce new challenges during the final approach:

▷ No flight parameters monitoring by another crew member.

▷ No workload sharing, making the single pilot more vulnerable to task interruptions.

▷ No possibility to discuss opinions for complex decision making.

Intelligent callouts

Thanks to an eye tracking device, callouts are emitted only when pilots do not pay attention to a flight parameter deviation.

▷ Monitoring the situation awareness through the gaze position is limited. Broadening pilot monitoring with other physiological parameters could be interesting.

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