

Analysis of UAV Operations: X-plane Simulations

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With increasing demand for on-board intelligence and autonomy, there have been major efforts to develop sophisticated intelligent architectures. One of the challenges is to accurately estimate the intent behind the commands received on-board and to inform the ground controller in a timely fashion. The system can go one step further and to over-ride the command if that endangers safety of the craft.

Previous studies in this area have developed simple causal models to accurately evaluate the context of the operator's commands. The main focus of the proposed topic is to develop a series of simulations using X-plane (<http://www.x-plane.org/>) that exploit the latest collision detection and avoidance algorithms, and causal flow analysis algorithms.

Pre-requisites:

- Good C/C++ programming skills;
- Thorough understanding of Matlab computing environment;
- Analytical skills to identify the key tasks