ARTIFICIAL INTELLIGENCE APPLICATION TO IMAGE PROCESSING FOR AUTONOMOUS NAVIGATION AROUND SMALL BODIES

Mentors:

- Simone Centouri (Deimos)

- Pelayo Peñarroya (Deimos)

- Victor Rodriguez (UPM)

- Emma Stevenson (UPM)

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Abstract:

The use of image processing techniques for autonomous navigation is one of the main features of space missions to small bodies. At Deimos Space, there is a high degree of expertise developed during missions like NEO-Shield, where typical techniques like detection and tracking algorithms were used in hovering scenarios. These techniques, however, are more and more often replaced by novel learning-based methods that outclass the formers in computational time, a key feature when it comes to autonomous operations in space. In the frame of the Stardust-R first Local Training Workshop, Deimos Space will talk about the basic concepts of image processing and how the company adapted to these new techniques.