Chair of Spacecraft Systems
TUM School of Engineering and Design
Technical University of Munich

Semester Thesis / Master Thesis

Start date: as soon as possible

Topic: *Synthetic Dataset Generation of 3D Artificial Objects in Space for Event Vision*

The goal of this project is to generate a synthetic dataset of 3D artificial objects in space for event vision using a neuromorphic camera. The candidate will develop a model-based simulation framework to generate a space operations dataset to be used for training AI models for object detection, classification, and identification. This dataset is essential for training AI models to detect objects in space, such as artificial satellites.

Tasks

- Development of model-based simulation framework (using existing optic table and event camera)

Requirements:

- Basic knowledge in computer vision and artificial intelligence
- Python

Expected results:

- Synthetic Dataset of Artificial Space Objects for Event Vision
- Semester Thesis / Master Thesis
- Following our internal evaluation, the candidate may be funded, on a merit basis, to present the results of the work at a world-class international conference

Supervisor:

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