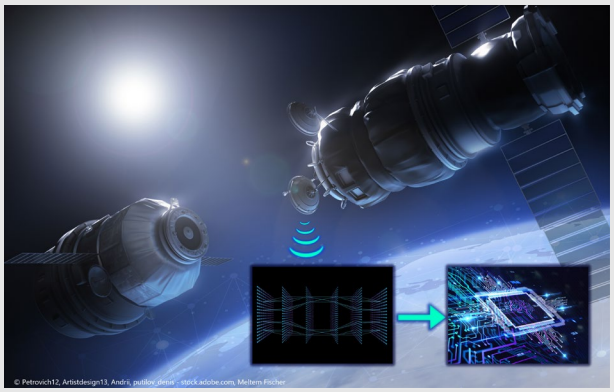
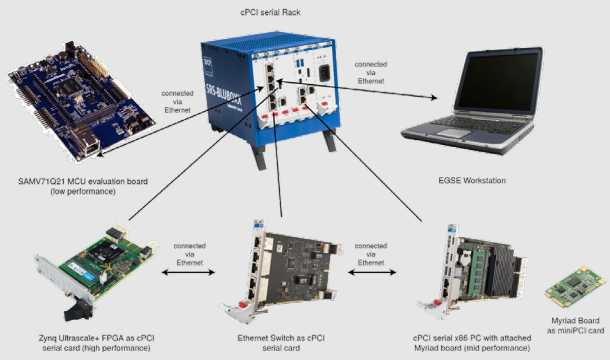
German Research Center for Artificial Intelligence

MaLeBeCo

Machine Learning Application Benchmarking on COTS Inference Processors





HW Übersicht des ML Beschleunigungs Demonstrators

The objective of the MaLeBeCo project is to build a test-bed allowing the comparison and benchmarking of machine learning applications for low-, mid- and high-performance architectures. This is of particular interest, in order to be able to cover the wide application area which is given by the different mission scenarios and use-cases. These use-cases include among other: the provision of pre-processed smart payload data, guidance navigation and control (GNC) for satellites as well as robots, on-board AI for an increased level of autonomy, intelligent data exploration algorithms, as well as AI in operations on ground or in orbit.

In the course of the activity the following topics will be addressed to archive the given objectives:

- Generation of a reusable and open reference dataset
- Evaluation and selection of suitable target platforms
- Development of ML algorithms representative for tasks required for future space missions
- Development of an efficient and reliable method of ML task management on the target platform
- Development and execution of a benchmarking solution for HW suitable target applications
- Preparation of a ML accelerator demonstrator
- Evaluation of results and provision of standard inference workflow

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MaLeBeCo

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