Assignment of bachelor's thesis

Title:	Detection of defects in CT images using Neural Networks
Student:	Petra Čurdová
Supervisor:	Ing. Jakub Žitný
Study program:	Informatics
Branch / specialization:	Knowledge Engineering
Department:	Department of Applied Mathematics
Validity:	until the end of summer semester 2021/2022

Instructions

Research current state-of-the-art techniques that are used for detection and segmentation tasks in the medical imaging domain, focus on CT images. Implement your own prototype model that will work on one of the datasets provided by the supervisor. Focus on data preprocessing and balancing, and evaluate using metrics common for medical imaging tasks. Compare the performance of your model with reference results from literature or existing models and discuss the pros and cons. Publish your prototype code and make sure your results are reproducible.