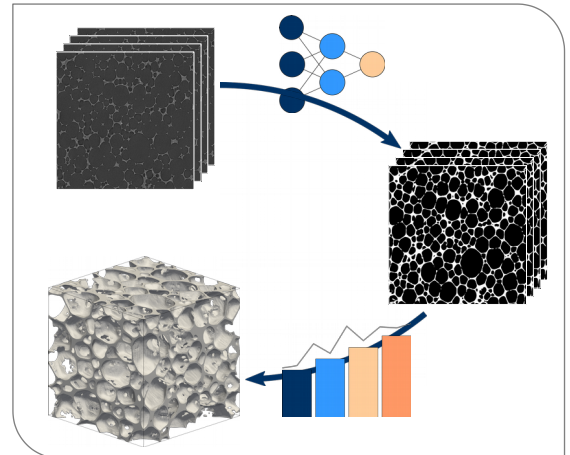


Segmentation of CT data using machine learning

Background:

For accelerated dimensioning of aluminium-plastic foam sandwich materials, the mechanical properties of the foam used are to be derived from its microstructural structure by means of machine learning. Prerequisite for this is the availability of accurate digital images of the microstructure at hand.



Your task:

In this work, a machine learning method is to be developed with the help of which CT images of foam structures of different densities can be segmented reliably and accurately into structure and pore space. To validate the developed method, the properties of the segmented structures will be compared with those of the real foam structures. In order to guarantee the reproducibility and generic application of the developed method, it shall also be modelled in the form of an automatable workflow in an editor developed at the institute.

Requirements:

Basic knowledge of materials science and physics is advantageous for working on the topic. Programming skills in Python and interest in machine learning as well as in familiarising oneself with new methods and topics should be present.

We offer:

- Intensive support
- Working on modern workstations and high-performance computers
- Productive and dynamic atmosphere in a team
- Career prospects as a young researcher

Interested?

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