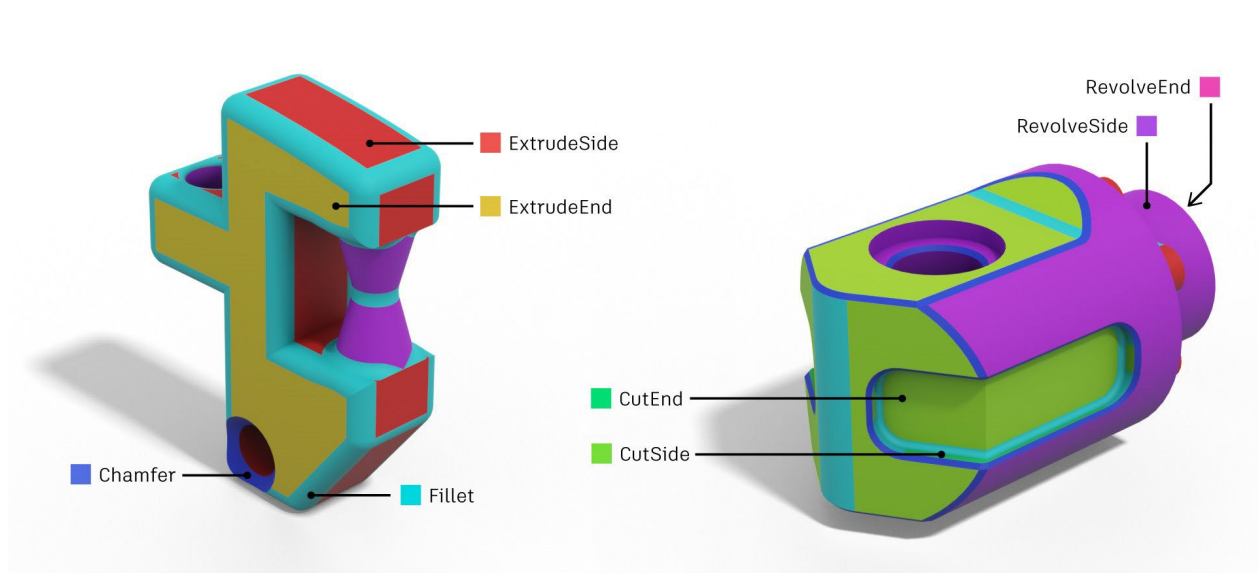


## Bachelor Thesis

# Enhancing CAD Data understanding through Advanced Segmentation techniques

### Description

This thesis will explore the development and application of segmentation techniques in the context of computer-aided design (CAD) data. The goal is to enhance the accuracy of CAD model segmentation, thereby improving the AI system's understanding of complex component geometries. The project involves experimenting with various deep learning models, like the SOTA BrepNet, to segment CAD models into meaningful units based on several classifications.



Many data structures will be tested (i.e. B-Rep, Meshes, Point Clouds, Graphs). By employing and potentially innovating upon several deep learning models, this research will delve into the intricacies of machine component segmentation, aiming to surpass current limitations with novel neural network architectures or optimization methods.

### Supervisors

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### References

[1] [Heidari, Negar, and Alexandros Iosifidis. "Geometric Deep Learning for Computer-Aided Design: A Survey." arXiv preprint arXiv:2402.17695 \(2024\).](#)

[2] [GitHub-Repo](#)