Karlsruher Institut für Technologie

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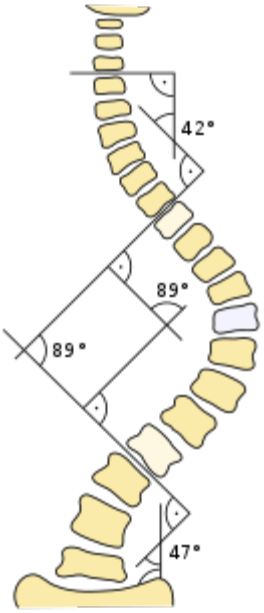
Computer Vision for Human-Computer Interaction

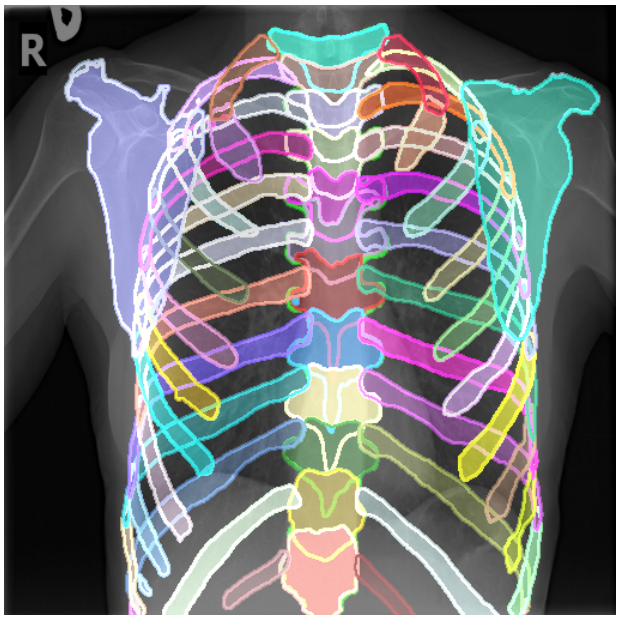
Automated Estimation of the Cobb-Angle in Chest Radiographs (Bachelor Thesis)



The accurate measurement of the Cobb-angle in chest radiographs is crucial for diagnosing and monitoring patients with spinal deformities such as scoliosis. Manual measurement of the Cobb-angle is time-consuming and subjective, often leading to inter-observer variability. This thesis proposes the development and evaluation of an automated system to estimate the Cobb-angle from chest radiographs using advanced image processing and machine learning techniques. The objective is to improve the efficiency and reliability of Cobb-angle estimation, ultimately benefiting both patients and healthcare providers.

Description:

- Literature research on medical image analysis
- Utilization of standard computer vision approaches for label simplification
- Implementation of state-of-the-art object detection methods



Experience and Knowledge:

- Interest in the topic of computer vision and assistive technology
- Python programming skills and knowledge of PyTorch are desirable

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If you are interested in this thesis, please feel free to send me (Constantin) your CV and Transcript of Records. We welcome any interesting ideas and look forward to publication at international conferences.

For details check out the paper: https://arxiv.org/pdf/2306.03934.pdf;