

Automated Assessment Tool for 3D Computer-Aided Design Models

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<p>Abstract: Computer-aided design (CAD) has become an integral part of engineering education, particularly for those studying mechanical engineering. By providing practical skills that are highly valued in the engineering industry, proficiency in CAD systems enhances students' employability. Generally, CAD systems provide students with the tools and knowledge necessary to excel in their engineering education and future careers. In order to help teachers to give the best training to their students and to make the right evaluations, an automatized tool is needed to support the evaluation of CAD models during training sessions. After an extensive bibliographical search, this paper proposes a CAD Model Automatized Assessment (MAA) Tool for mechanical courses called the CAD MAA Tool. This tool is mainly based on a developed model that takes into account different aspects of modeling, such as geometric, feature-based, and parametric modeling. To correctly evaluate a given part compared to a reference one, the proposed model uses different coefficients fixed by the teacher according to their teaching strategies or course objectives.</p>	