



Characterizing 3-D printed objects for 3-D printing

UND Technology 15-09

Patent Number US 9,846,427

Date of Issuance: December 19, 2017

Summary

The University of North Dakota has patented methods and apparatuses for performing quality assessment on 3-D printed objects during the printing process. The approach uses sensor data (e.g., digital imagery) to characterize printing progress or to detect 3-D printing defects that would otherwise result in printing incorrect objects. Sensor data can be used as part of a destructive scanning process to perform post-printing object assessment.

Advantages

- Detect printing job termination, dry printing, over/under application, movement of the filament, and other defects in real time.
- Supports both reversal and reprinting functionality.
- Applicable to single and small run 3D print jobs, where manual comparing of pieces is inefficient and inexact

Inventors

Dr. Jeremy Straub

Dr. Benjamin Kading

Dr. Scott Kerlin

