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Office of Technology Management

# RANGE FINDER TO IMPROVE X-RAY IMAGE COLLECTION

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**Technology Description**

Researchers at Washington University in St. Louis have developed a device that automatically measures and displays body thickness to optimize X-ray image collection. This device will improve X-ray image quality and reduce the radiation exposure to patients.

The device estimates body thickness using a range finder attached to a camera, and the software output displays the patient's position relative to the automatic exposure chamber. The technologist can optimize positioning without taking multiple images, limiting radiation exposure.

**Stage of Research**

The researchers have built a working prototype of this device and tested it on patients. The software can be integrated with existing radiology systems, and existing gantries can be easily retrofit.

**Publications**

- MacDougall RD, Scherrer B, Don S. (2018). Development of a tool to aid the radiologic technologist using augmented reality and computer vision. *Pediatric Radiology*, 48: 141-145.

**Applications**

- X-ray imaging: particularly impactful to pediatric radiology

**Key Advantages**

- Enables better patient positioning
- Reduces radiation exposure

**Patents:** US 10,456,102 & US 10,842,460

**Related Web Links:** Don Profile & Lab