Low Dose Ventilation Imaging Software For Lung Disease Screening

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THE UNIVERSITY OF SYDNEY

Medical technology and devices

> TRL 3
> Preclinical

Problem

Lung cancer accounts for the highest mortality rate amongst men and women of all cancers worldwide. One of the key challenges is that lung cancer is often undiagnosed until it reaches a more advanced stage, limiting treatment options and increasing the mortlity rate. Earlier interventions have higher success rates however patients need to be diagnosed earlier to receive them. The current clinical standard for lung cancer imaging is 4D CBCT however this requires over 1000 x-ray projections with a significant radiation dose to the patient. Due to the cost, it is difficult for patients to access this imaging and therefore diagnostic capability.

Potential Commercial Applications

— Large scale lung screening able to determine a wide array of diseases including cancer, asthma, fibrosis, lesions etc

— Imaging for functional treatment planning

— Imaging for predictive post operative lung function

Solution

This software uses standard x-ray images taken from five angles to form an image that is able to clearly determine healthy and unhealthy regions of the lung.

Benefits of this technology:

- 99.9% reduction in scan radiation dosing to patients
- Significantly faster to perform approx. 5 mins

Intellectual Property Status

This technology is currently the subject of an Australian Provisional Patent application AU2025900252.

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