


SPEAKERS' CONTACT & PRESENTATION DETAIL FORM

Composite Technology Seminar & Expert Forum

Republic Polytechnic / GMI Aero / Melchers, 10 February 2020

Full Name / Title (e.g. Mr, Miss, Mrs, Ms, Dr, Prof)	Dr. Jiang Lijun	 Speaker Photo
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TITLE OF PRESENTATION (15 words or less)

Automatic crack detection for composite structure using AI based image processing method

PRESENTATION ABSTRACT (200 words or less)

Routine visual inspection of composite aero-structure is one of the essential tasks in maintenance centers to maintain aircraft safety. However, current visual inspection procedure is time-consuming, tedious, and subjective which involves human operators to observe and identify cracks on the various components. Detecting imperfection and cracks of composite internal surfaces on aircraft is an arduous task due to accessibility problem, dark color surface, limited space and blurry shapes. This presentation will introduce a deep learning framework based on Faster R-CNN for crack detection on the internal composite surfaces of civil transport aircraft. The overall performance and robustness of the proposed system achieves 95%.

SPEAKER BRIEF BIOGRAPHY (120 words or less)

Dr. Lijun Jiang is currently a senior lecturer at Republic Polytechnic (RP)'s School of Engineering. Prior to joining RP in 2006, he worked as research fellow in Centre for Signal Processing(CSP) from 2000 to 2002, research staff at A*Star of Singapore from 2002 to 2006. He has led and been involved in many research projects, in the areas of NDT, machine vision, biomedical imaging and signal processing, optoelectronic sensing, Infrared wireless communication, with over 80 publications in journals, books and conferences.