LongChen.uk

PhD Candidate at Bournemouth University, UK

Augmented Reality | Computer Vision | Deep Learning

personal

Name: Long Chen
DOB: 20/08/1990
Nationality: Chinese

contact

Flat 8 Conel Court,
66 Talbot Road,
Bournemouth
BH9 2EU
alwaysunny@gmail.com
+44 07842722728
http://longchen.uk

awards

17' Santander Mobility Award
15' BU PhD Studentship Award
14' UCL Distinction Graduation

skills

Augmented Reality
Computer Vision
Deep Learning
SLAM

programming

C/C++ • Matlab • Python
Linux • Caffe • Tensorflow
Unity3D • Unreal Engine
LaTeX

links

Google Scholar
ResearchGate
YouTube
LinkedIn
GitHub

Education

2015–present **PhD Candidate in Department of Creative Technology**
Bournemouth University, UK Bournemouth, UK
Research Interest: Augmented Reality, Computer Vision, Machine Learning for image guided minimally invasive surgery and game interactions

2013–2014 **M.Sc. in Medical Image Computing, Distinction(10%)**
University College London London, UK
Graduation Project: Multi-modality Registration of Liver Images for Guiding Minimally-invasive Interventions

2009–2013 **B.Eng. in Biomedical Engineering**
Dalian University of Technology, China Dalian, China
Graduation Project: DCE-MRI Sequences Non-rigid Image Registration

Work Experience

2015–2015 **Software Engineer**
Toshiba Medical Systems Co., Ltd Beijing, China
My responsibility is to analysis, design and develop medical image processing algorithms and diagnostic applications for Toshiba's Medical Image Workstation.

2014–2015 **Advanced Application Intern**
GE Healthcare Beijing, China
My primary task is to develop the registration module for a DCE-MRI diagnostic software using C++. Implement and evaluate different registration algorithms for 3D DCE-MRI and Perfusion CT image sequences.

Research and Publications

My research focuses on AR/MR in surgical guidance and interactive games with the common theme of applying novel computer vision technologies, e.g. SLAM and Deep Learning techniques to tackle the AR tracking, reconstruction and interaction problems.

Geometry-Aware AR in Minimally Invasive Surgery SLAM & Surface Reconstruction

[1] **Chen et al**, "Recent Developments and Future Challenges in Medical Mixed Reality", *the 16th IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, 2017 (Oral Presentation) [PDF]

[2] **Chen et al**, "Real-time Geometry-Aware Augmented Reality in Minimally Invasive Surgery", *the 11th MICCAI workshop on Augmented Environments for Computer-Assisted Interventions (AECAI)*, 2017 (Oral Presentation) [PDF]

[3] **Chen et al**, "SLAM-based Dense Surface Reconstruction in Monocular Minimally Invasive Surgery and its Application to Augmented Reality", *Computer Methods and Programs in Biomedicine (CMPB)*, 2018 [PDF]

Context-Aware Interactive AR Environment SLAM & Deep Learning

[1] **Chen et al**, "Semantic Augmented Reality Environment with Material-Aware Physical Interactions", *the 16th IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, 2017 [PDF]

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