

Ji Dai

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Education

University of California, San Diego

La Jolla, CA, U.S.A.

PH.D. IN ELECTRICAL ENGINEERING

Sep. 2015 - present

- Advisor: Prof. Truong Nguyen
- Research: Multiview 3D Reconstruction

Boston University

Boston, MA, U.S.A.

M.S. IN ELECTRICAL ENGINEERING

Sep. 2013 - Jun. 2015

- Advisor: Prof. Janusz Konrad & Prof. Prakash Ishwar
- Thesis: Towards Privacy-Preserving Human Activity Recognition

Shanghai Jiao Tong University

Shanghai, China

B.S. IN ELECTRICAL ENGINEERING

Sep. 2009 - Jun. 2013

- Advisor: Prof. Xinbing Wang
- Thesis: Access Method of 802.11.6 WBAN network

Publication

Towards Privacy-Preserving Activity Recognition Using Extremely Low Resolution Temporal and Spatial Cameras

CNF

J. Dai, J. Wu, B. Saghafi, J. Konrad, and P. Ishwar

IEEE Computer Society Workshop on Analysis and Modeling of Faces and Gestures at CVPR 2015 ([pdf](#))

Towards Privacy-Preserving Recognition of Human Activities

CNF

J. Dai, B. Saghafi, J. Wu, J. Konrad, and P. Ishwar

IEEE International Conference on Image Processing 2015 ([pdf](#))

Experience

University of California, San Diego

La Jolla, CA

GRADUATE STUDENT RESEARCHER

Sep. 2015 - present

- Currently working on 3D reconstruction project

Smart Lighting Engineering Research Center, Boston University

Boston, MA

RESEARCH ASSISTANT

Jun. 2014 - Jun. 2015

- Worked in the Control group
- Proposed novel algorithm for human gestures recognition with extremely low resolution visual data
- Built a smart environment with low resolution sensors and applied with the proposed activity recognition algorithm
- Built a Unity-based test-bed which read human motion data from Microsoft Kinect to animate the virtual avatar

Stellar Services

Shanghai, China

SOFTWARE DEVELOPER

Feb. 2013 - Aug. 2013

- Worked on SOLIS system

IBM

Shanghai, China

SYSTEM SUPPORT REPRESENTATIVE

Jul. 2012 - Dec. 2012

- On site server installation and maintenance
- IBM AIX operating system maintenance for IBM Power 700 series servers

Projects

3D Reconstruction with Deep Learning

ADVISOR: PROF. TRUONG NGUYEN, PROF. MANMOHAN CHANDRAKER

[link](#)

Jan. 2016 - present

- Using deep learning to assist conventional 3D reconstruction algorithm

View Synthesis for Calibrated Cameras

ADVISOR: PROF. TRUONG NGUYEN

[link](#)

Sep. 2016 - Jan. 2017

- Worked on developing image-based rendering algorithm for view synthesis problem
- Proposed novel approach for occlusion filling using hierarchical clustering
- Achieved good performance in Middlebury Stereo and Microsoft Multiview Dataset

Human Gestures Recognition with Extremely Low Resolution Visual Data

ADVISOR: PROF. JANUSZ KONRAD, PROF. PRAKASH ISHWAR

[link](#)

Feb. 2014 - Jun. 2015

- Proposed novel algorithm for gestures recognition using extremely low resolution visual data
- Using 5 cameras at 10×10 resolution, the proposed algorithm achieved $\sim 80\%$ recognition accuracy on synthetic data and $\sim 70\%$ accuracy on real data (IXMAS dataset); 10 different gestures being tested ([dataset](#))
- Built smart environment capable of recognizing 3 gestures with 6 single pixel luminance sensors and proposed algorithm

Music Recognition

ADVISOR: PROF. HAMID NAWAB

[link](#)

Sep. 2013 - Dec. 2013

- Developed music recognition algorithm based spectrogram analysis

Skills

Programming Language C++, Python, Matlab, C#, XNAL

Libs & API OpenCV, CUDA, OpenGL

Deep Learning Theano, TensorFlow, PyTorch

Software Unity, Unreal, Blender

Operating System Linux, Windows