

# LANDU JIANG

## RESEARCH INTERESTS:

Wearable Sensing, Smart Computing, Image Processing, Computer Vision, Computer Networks, Distributed Systems, Building Information Modeling, Web 3D Simulation.

## EDUCATIONAL BACKGROUND:

**McGill University, Montreal, QC, Canada** Sep 2012 - present  
Computer Science (PhD)

**University of Nebraska-Lincoln, Lincoln, NE, USA** Aug 2010 - Aug 2012  
Computer Science (MSc)

**Shanghai Jiao Tong University, Shanghai, P. R. China** Sep 2006 - Jun 2010  
Bachelor of Engineering - Information Security Engineering

## RESEARCH EXPERIENCE:

### Graduate Research Assistant

McGill University Sep 2012 - present

### Enhancing Driving Safety Using Smart Sensing Technologies

- Development of a smartphone-based driving safety application to study intersection-related critical driving events including unsafe turns, running stop signs and running red lights. The system leverages smartphone embedded sensors (i.e., inertial sensors) and while at the same time adopts vision-based algorithms.
- Development of a driving safety system that leverages wearable sensing techniques to detect and analyze driver distracted behaviors including texting, interacting with the control (e.g., infotainment systems), drinking/eating and searching personal items.

### Energy-Efficient Route Planning for Solar-Powered EVs

- Development of a route planning method for solar-powered EVs to balance the energy harvesting and consumption subject to time constraint.
- Designed the solar energy harvesting input modeling, which considers geo-information and the solar radiation condition.

### Graduate Research Assistant

University of Nebraska-Lincoln Jan 2011 - Aug 2012

### Serious game 3D Simulation on webpage and mobile devices

- Development of interactive web-based digital 3D healthcare facilities using the cutting-edge

Unity3D game engine. The project is sponsored by the U.S. Department of Energy.

- Designed overall project architecture, implemented backend applications- web-based 3D and mobile devices.

University of Nebraska-Lincoln

Sep 2010 – Jan 2011

- Participated in research with University of Colorado Boulder on privacy issues of online video chat environments is reported by news media including the New York Times, PC World, Computer World, The Register, and Huffington Post.

### **Undergraduate Research assistant**

Shanghai Jiao Tong University

Oct 2008 – Jul 2010

- Developed the document binarization algorithm for degraded images. The method solved the problem that document images with types of degradations such as uneven illumination, shadows, low contrast, smears and heavy noise densities.
- Research about Bag-of-words and Min-Hash models, in charge of the testing work of data algorithm, using k-means, vote algorithm and advanced sift algorithm testing the structural characteristic of all kinds of languages.

### **PUBLICATIONS:**

- Landu Jiang, Kai Chen, Shibo Yan, Yi Zhou, and Haibing Guan “Adaptive Binarization for Degraded Document Images” to appear in 2009 International Conference on Information Engineering and Computer Science ICIECS2009, Wuhan, China
- Zhigang Shen, Landu Jiang, Kevin Grosskopf, and Charles Berryman. “Creating 3D web-based game environment using BIM models for virtual on-site visiting of building HVAC systems.” In Construction Research Congress 2012: Construction Challenges in a Flat World, pp. 1212-1221. 2012.
- Landu Jiang, Xi Chen, and Wenbo He. “SafeCam: Analyzing intersection-related driver behaviors using multi-sensor smartphones.” In Pervasive Computing and Communications (PerCom), 2016 IEEE International Conference on, pp. 1-9. IEEE, 2016.
- Bi Chongguang, Huang Jun, Xing Guoliang, Jiang Landu, Liu Xue, and Chen Minghua. “SafeWatch: A Wearable Hand Motion Tracking System for Improving Driving Safety.” In Internet-of-Things Design and Implementation (IoTDI), 2017 IEEE.
- Landu Jiang, Yu Hua, Chen Ma and Xue Liu. “SunChase: Energy-Efficient Route Planning for Solar-Powered EVs.” International Conference on Distributed Computing Systems (ICDCS), 2017 IEEE.

### **PROGRAMMING SKILLS:**

C/C++, Java, Matlab, Python, Java script, C#.