

# LI XINKE

## Basic Information

**Student Pass Holder, LTVP thereafter**      **DOB:** 21/10/1993      **Gender:** Male  
**Cell:** (+65) 8501 7309      **Email:** xinke.li@u.nus.edu  
**Add:** #02-20, WHITEHAVEN, 334A Pasir Panjang road, Singapore

## Education

**-B.Sc., Electronic and Engineering (GPA 88.5 / 100)** 09/2012-06/2016

College of Electronic Science and Engineering, Jilin University (JLU, Jilin, China)

**Main Courses:** Fundamental of Circuit Analysis, C Language Programming, Fundamental of Analog Electronics, Digital Electronic Physics, Semiconductor Physics, Design of Digital IC, Analog IC Design, Physics of Semiconductor Devices, Principle of Laser, Semiconductor Materials, Verilog HDL & ASIC Principle.

**-MSc., Electrical & Computer Engineering (CAP 4.45 / 5.0)** 08/2016-12/2017

Department of Electrical & Computer Engineering, National University of Singapore (NUS, Singapore)

**Main Courses:** Pattern Recognition, Neural Network, Uncertainty Modeling of AI, Visual Computing

## Language & Computer skills

**Language:** English Fluent / Chinese Native Speaker **IELTS 7**    **GRE** (Regist Dec)

**Computer skills:** MATLAB (computer vision system, image processing, NN tool boxes), Python, C

## Research Experiences & Projects

✓ **Depth Estimation from Stereo and Video** Oct 2017

**Merit course project for Visual Computing, ECE - NUS, Singapore**

**Research content:** Reviewed current global matching algorithms to estimate disparity map. Finished consistent depth maps from stereo and video sequence on MATLAB. Main procedures includes disparity map initialization and optimization based on Graph Cut algorithm, bundle optimization and parameters analysis. Whole process was realized on MATLAB platform.

✓ **Development of Photonics Based Chemical/gas Sensor** April 2017

**Centre of Intelligent Sensor & MEMS, NUS, Singapore**

**\*WBS Project: R-263-000-C24-281 (Piezoelectric Photonics Using CMOS Compatible AIN Technology for Enabling The Next Generation Photonics ICs and Nanosensors)**

**Research content:** Designed and simulated Silicon On Insulator photonics waveguide to detect refractive index of liquid or gas in 3.8  $\mu\text{m}$  to utilize the advantages of Mid-IR spectrum. Reviewed current photonic sensor structures and simulated micro-ring resonator and slot waveguide structure to achieve high sensitivity. Main work of waveguide electromagnetic field calculation and analysis were based on MATLAB&C platform.

✓ **Realization of Multifunctional Automatic Venetian Blind** Jul 2015

**First Prize in the Electronic Design Competition of Jilin University, JLU, China**

**Research content:** Designed mechanical structure of an automatic venetian blind based on STC86C51. Realized it via programmable modules including wireless control module, step motor driver and photosensitive module. Main functions of this venetian blind were manual controlled rotation and shift of blinds in remote and automatically adjusted according to light and humidity.

✓ **Optimal Policy of Vegetables Transport Fee for Multi-destinations** May 2015

**Second Prize in Jilin area in China Undergraduate Mathematical Contest in Modeling, JLU, China**

**Research content:** Compared and researched mainstream algorithms to address optimized path problem. Utilized and enhanced Floyd algorithm for solution of this problem and evaluated transport fee policy via linear regression on MATLAB platform & Improved the efficiency of optimizing method via Genetic algorithm based on Python.

✓ **Research on LED and Optical Fiber Coupling Technology in Railway Lighting System** Mar 2015

**National Innovation and Entrepreneurship Training Project for College Student, JLU, China**

**Research content:** Analyzed and modeled the electrical interference effect on railway power system equipment i.e. track circuit and signal transmission system with the assistance of MATLAB & Designed optical fiber transmission circuit and made the tests.

## Refrees

<b>WANG FEI</b>	Associate Professor	Polymeric Intergrated Photonics Lab, JLU	wang_fei@jlu.edu.cn
<b>DONG BOWEI</b>	Doctor of Philosophy	Centre of Intelligent Sensor & MEMS	dongbowei@u.nus.edu

## Scholarships & Honors

First-Prize Scholarship awarded by Jilin University	2014-2015
Excellent Student Cadre of Jilin University	2014-2015
Individual Scholarship awarded by Jilin University - twice	2012-2013 & 2013-2014
Merit Student of the College	2013-2014

## Extracurricular Activities

Class Leader in Charge of Publicity & Organization	2012-2016
China Registered Volunteer, Commissary in the JLU e-Day Volunteer Association	2012-2016
Vice Minister of Publicity Department, the Students' Union	2012-2014