

# Pan Wei

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## Education

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### Singapore University of Technology and Design

*Ph.D*

Pillar of Engineering Product Development

**Supervisors: Prof. CHEN Lujie**

**Singapore**

*Sep. 2013 – Mar. 2018*

### Zhejiang University

*B.Eng, 3.6/4.0*

Chu KoChen Honors College in Optical Engineering

**Supervisors: Prof. LIU Xu, Prof. KUANG Cuifang**

**Hangzhou, China**

*Aug. 2009 – July 2013*

## Research Interests

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Mesh Processing, Computational Geometry, Geometric Learning, Rapid Prototyping, Computer Aided Design, Algorithm and Optimization, Automation Design

## Publications

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### RESEARCH PAPER

1. **Wei Pan**, Yuanhao Gong, Wenming Tang, Jun Liu, Guoping Qiu. "HLO: Half-kernel Laplacian Operator for Surface Smoothing." arXiv:1905.04678 (2019).
2. **Wei Pan**, Yuanhao Gong, Guoping Qiu. "Parallel Curvature Filter for High Performance Image Processing.", *IWAIT-IFMIA2019*, Singapore.
3. **Wei Pan**, Lujie Chen. "Transformation of LEGO Models.", *Computer Aided Design and Applications*, 2018
4. **Wei Pan**, Lujie Chen. "Design of LEGO assembly transformation." in Proceedings of CAD'17, Okayama, Japan, 2017.
5. **Wei Pan**, Lujie Chen, and Stylianos Dritsas. "Pick-and-place process sequencing for transformation of rasterized 3D structures." *Automation in Construction* 75 (2017): 56-64. doi: j.autcon.2016.12.007
6. **Wei Pan**, Lujie Chen. "Moving Sequence Generation Based on Hungarian Method for Pick-and-Place Process." page 47-52, in Proceedings of CAD'15, London, United Kingdom, 2015.
7. Si Guang Yuan, Eunice Sok Ping Leong, **Wei Pan**, Chan Choy Chum, and Yan Jun Liu. "Plasmon-induced transparency in coupled triangle-rod arrays." *Nanotechnology* 26, no. 2 (2014): 025201.

### PATENTS

1. 刘军, 潘威, 唐文明, 龚元浩, 邱国平. 一种3D成像扫描设备及扫描方法: 中国, CN2018109460206[P], CN109141281A[P], 2018.09.03.
2. 唐文名, 龚元浩, 潘威, 刘军, 邱国平. 一种基于三维物体识别的机械臂手眼标定方法

- 及装置. CN2018113113701. 2018.11.06.
3. 潘威, 龚元浩, 唐文名, 刘军, 邱国平. 基于拉普拉斯算子的三角网格滤波方法及终端设备. CN201910234707.1. 2019.03.26.

## Experience

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- Senior R&D Engineer** **OPT Machine Vision Corp., Dongguan**  
*Jun 2019 – now*  
Work independently on 3D Metrology Platform: Sci3D Vision SDK; Structured-Light module development: system and software; Binocular match module: system and algorithm.
- Research Fellow** **Shenzhen University, Shenzhen**  
*Advisor: Prof. QIU Guoping*  
*Jun 2018 – May 2019*  
3d learning-based vision algorithm, computer graphics and 3 dimensional robotic pick and place process.
- PhD Researcher** **SUTD, Singapore**  
*Advisor: Prof. CHEN Lujie*  
*Sep. 2013 – Mar. 2018*  
Algorithm and software development in C++ to achieve large scale rapid prototyping and fabrication. Developed algorithms for rasterized model transformations and rendering tools in computer graphics; Projects include: Fresh Press Modeler: a novel system that generates tailored geometry for ease of assembly, Embodied Prototyping: a design-fabrication framework for large-scale model manufacturing, Pick-and-place sequencing development for voxels and Lego bricks, etc.
- Research Intern** **IMRE, A\*STAR, Singapore**  
*Advisor: Dr. LIU Yanjun*  
*May 2014 – Sep. 2014*  
Tested the plasmon-induced transparency (PIT) phenomena on a gold triangle-rod hybrid nanostructure arrays using transmission spectroscopy and FDTD simulation.
- Thesis Project** **Zhejiang University, Hangzhou**  
*Advisor: Prof. KUANG Cuifang, Prof. Liu Xu*  
*Jan. 2013 – July 2013*  
Software development in C++ for STORM microscope.
- Visiting Student** **University of Alberta, Edmonton**  
*Advisor: Prof. Zubin Jacob*  
*Sep. 2012 – Dec. 2012*  
Survey on Super Resolution Fluorescence Microscopy: STED and STORM.
- Research Intern** **Kuang-Chi Institute, Shenzhen**  
*Advisor: Dr. GUO Jie*  
*July 2012 – Aug. 2012*  
Antenna's design and simulation with COMSOL and CST using metamaterials; Kuang-Chi Young Talents Awards.
- Optical Design Competition** **Zhejiang University, Hangzhou**  
*Project Leader*  
*Feb. 2012 – July 2012*  
Fabricated a laser spying device to restore sound signals from the spots reflected from vibrated glass windows, and programmed in Labview to locate the source of sound; Awarded the only first prize.
- Zhejiang Xinmiao Talents Program** **Zhejiang University, Hangzhou**  
*Advisor: Prof. LIU Chong*  
*Feb. 2012 – May 2013*  
Tested aerosol's absorbing coefficient by laser and resonator and fix the length of resonator based on Piezoelectric ceramics with LABVIEW.
- China Undergraduate Innovation Program** **Zhejiang University, Hangzhou**  
*Advisor: Dr. LIN Shisheng, Prof. Tong Limin*  
*Mar. 2011 – June 2012*

Mass production of one-layer large graphene on 10-micron scale with the taping method.

## Awards

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- President's Graduate Fellowship, Singapore, 2013-2018
- Outstanding Graduate Student, Zhejiang University, China, 2013
- Kuang-Chi Young Talents Awards, China, 2012
- 1st Prize Winner in Optical Design Competition in Zhejiang University, China, 2012
- First-Class Scholarship for Outstanding Students, Zhejiang University, China, 2009
- Excellent Student Awards, Zhejiang University, China, 2009-2013 (every year)
- Scholarship for Excellent Students in Sports and Arts, Zhejiang University, China, 2009-2013 (every year)

## Skills

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**Languages:** Mandarin (Native), English (Fluent), Japanese (Elementary)

**Programming:** C++, Python, MATLAB, PyTorch, TensorFlow

**Interests:** Badminton, Soccer, Swimming

## Activities

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**Teaching Assistant:** System and Controls (30.101) SUTD, EPD, 2015, Lecturer: Prof. Shaohui Foong

**Teaching and Lab Assistant:** Digital Systems Lab (30.110) SUTD, EPD, 2014, Lecturer: Prof. Jiajia Chen, Prof. Yuen Chau

**Volunteering English Teacher:** Teaching English in Thang Long Middle School, Hanoi, Vietnam, June 2015

**Vice Captain of Soccer Team:** Initiated and co-established SUTD Diraja soccer team.