Pan Wei

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Education

Singapore University of Technology and Design   **Singapore**
Ph.D   *Sep 2013 – 2018*
Pillar of Engineering Product Development
Related courses: Modelling and Optimization; Probability and Statistics; Machine Learning; Algorithm and Data Structure, etc.

Zhejiang University   **Hangzhou, China**
B.Eng, 3.60/4.0   *Aug 2009–July 2013*
Chu KoChen Honors College in Optical Engineering
Related courses: Advanced Mathematics; Signal Processing; Photonics; Phiscal Optics, etc.

Research Interests

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

Publications

1. **Wei Pan**, Yuanhao Gong, Wenming Tang, Jun Liu, Guoping Qiu. "Half-kernel Laplace Operator for Surface Processing.", *under submission.*
2. **Wei Pan**, Yuanhao Gong, Guoping Qiu. "Parallel Curvature Filter for High Performance Image Processing.", submitted to *International Workshop on Advanced Image Technology (IWAIT) 2019. Vol. 11049. International Society for Optics and Photonics*, Singapore.
3. **Wei Pan**, Lujie Chen. "Transformation of LEGO Models.", submitted to *Computer Aided Design and Applications*, 2018
4. **Wei Pan**, Lujie Chen. "Design of LEGO assembly transformation." in Proceedings of CAD'17, Okayama, Japan, 2017. (in proceedings)
5. **Wei Pan**, Lujie Chen, and Stylianos Dritsas. "Pick-and-place process sequencing for transformation of rasterized 3D structures." submitted to *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. (in proceedings)
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." submitted to *Nanotechnology* 26, no. 2 (2014): 025201.

Experience

Research Fellow   **Shenzhen University, Shenzhen**

Advisor: Prof. QIU Guoping   *Jun 2018 – now*

3d learning-based vision algorithm: Build a 3D shape database by 3D scanning; learning algorithms on both mesh and point cloud; Pick and place process by UR robotic arm

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   *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; Awared 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   *Mar. 2011 – June 2012*

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

Awards

- President's Graduate Fellowship, Singapore, 2013-2018 (every year)
- Outstanding Graduate Student, Zhejiang University, China, 2013
- Kuang-Chi YoungTalents 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

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

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

Interests: Badminton, Soccer, Swimming

Activities

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.