PENG, YIFAN (EVAN)

Curriculum Vitae

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Education

The University of British Columbia (UBC), Vancouver, Canada

Ph.D. in *Computer Science* 05/2018

Zhejiang University (ZJU), Hangzhou, China

M.Sc. in *Optical Science & Engineering* 03/2013

Dual B.E.s in *Opto-Electronic Engineering & Business (Entrepreneurial Management)* 07/2010

Research Experience

***Assistant Professor, Electrical and Electronic Engineering,* HKU** 05/2022-Present

- Computational optics, Compressive sensing, Holography, VR/AR/MR, Medical imaging, AI.

***Postdoctoral Research Scholar, Computational Imaging Group,* Stanford** 11/2018-04/2022

- Computational photography, Holographic display, VR/AR/MR, Deep medical imaging, AI.

Research Assistant, Imager Lab, Computer Science Department, **UBC** 09/2013-08/2018

- Computational photography, Holographic/Light field display, Graphics & Low-level vision.

***Visiting Researcher, Computational Imaging Group,* Stanford** 12/2017-03/2018

- Computational photography, Joint-design of optics and image processing.

***Visiting (& Remote) Researcher,* Visual Computing Center, KAUST** 10/2015-12/2017

- Computational imaging, Convex optimization, Compressive sensing, Diffractive optics design.

***Display Tech. Researcher*, Global Research & Technology, Lenovo** 04/2013-08/2013

- Pre-research in emerging display and interaction techniques for consumer electronics.

***Research Assistant, State Key Lab of Modern Optical Instrumentation*, ZJU** 08/2010-03/2013

- Light field display, Fast interaction prototyping, Optical design.

Professional Service

Technical Program Committee

- SPIE AR|VR|MR 2021 & 2022, Optical Architectures for Displays and Sensing in AR, VR, MR Track.
- IEEE International Conference on Computational Photography (ICCP) 2020 & 2021 & 2022.
- IEEE International Symposium on Mixed and Augmented Reality (ISMAR) 2020 & 2021 & 2022.
- OSA Imaging and Applied Optics Congress 2020, 3D Image Acquisition and Display Topic.
- Society for Information Display (SID) Display Week 2020 & 2021 & 2022, Display System Division.

- ASIAGRAPHICS Computational Visual Media Conference 2020 & 2022.
- SPIE Photonics Asia 2019 & 2020, Optoelectronic Imaging and Multimedia Technology Track.
- CCF ChinaGraph 2020.

Regular Reviewer / Invited Reviewer *(~120 peer-reviews)*

- Nature Group journals (Scientific Reports, Light: Science & Applications, Computational Science).
- The Optical Society (OSA) journals (Optica, Optics Express, Optics Letters, Applied Optics).
- IEEE journals (Transaction of Multi-Media, Computer Graphics & Application, J. of Display Tech.).
- IEEE journal Transactions on Pattern Analysis and Machine Intelligence (TPAMI).
- IEEE journal Transactions on Visualization and Computer Graphics (TVCG).
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 21' 22'.
- ACM journal Transactions on Graphics (TOG).
- ACM SIGGRAPH 15',16',17',20',21',22' & SIGGRAPH Asia 14',17',18',19',20',21',22'.
- ACM CHI 17', Eurographics 17'.
- Springer Group journal International Journal of Computer Vision (IJCV).
- IEEE Conference on Virtual Reality and 3D User Interfaces (VR) 20', 21', 22'.
- ACM Symposium on Virtual Reality Software and Technology (VRST) 20'.
- ACM International Conference on Multimodal Interaction (ICMI) 16'.
- MDPI journal Sensors.
- AIP journal Applied Physics Letters (APL) Photonics.

Session Chair, Displays, International Symposium on Mixed and Augmented Reality 2021

Session Chair, Near-eye Displays, International Symposium on Mixed and Augmented Reality 2020

Session Chair, Holographic and Auto-stereoscopic Displays, Display Week Technical Symposium 2022

Session Co-Chair, Light Field and Holographic Displays, Display Week Technical Symposium 2021

Coordinator, Stanford Imaging Journal Club (weekly seminars), 2019/2020 academic year

Session Co-Coordinator, SPIE AR|VR|MR (monthly webinars), 08/2020

Session Co-Coordinator, GAMES: Graphics and Mixed Environment Seminar, 12/2020, 11/2021

Teaching Experience & Mentorship

Teaching Assistant **at Department of Computer Science, UBC** 09/2013-04/2014

- APSC 160: fundamental programming and data structure for undergraduate engineering students.

Student Mentorship **at Computational Imaging Group, Stanford** 11/2018-03/2022

- Mentoring 2 PhD & 2 MSc students for projects in microscopic imaging and holographic displays.

***Remote Student Mentorship* at State Key Lab of CAD & CG, ZJU** 01/2019-05/2020

- Mentoring 1 PhD student for projects in inverse rendering and lighting prediction.

***Remote Student Mentorship* at Visual Computing Center, KAUST** 11/2016-05/2018

- Mentored 1 PhD & 1 undergraduate students for projects in compressive imaging, low-level vision.

***Remote Student Mentorship* at State Key Lab of Modern Optical Instrumentation** 11/2015-11/2017

- Mentored 3 PhD students for projects in light field displays and holographic waveguide displays.

Honors & Achievements

- Best Journal Paper Award of IEEE Virtual Reality 2022, awarded by IEEE 2022
- National Award for Outstanding Self-funded Students, awarded by China Scholarship Council 2018
- 4-Year Doctoral Fellowship Award, awarded by The University of British Columbia 2014
- N.H. Benson International Graduate Award, awarded by The University of British Columbia 2014
- Computer Science Merit Scholarship, awarded by The University of British Columbia 2013
- National Scholarship for Graduate Student, awarded by China Ministry of Education 2013
- Shunyu 1st Rank Scholarship for Graduate Student of Zhejiang University (Top 5%) 2012
- General Electronics (GE) Foundation Tech Award (Great China area 1st rank) 2011
- National College Diversity Leadership Power Contest (China national Top 10) 2010
- National College LED Lighting Design Contest (3rd prize, China national Top 5) 2010

Conference Presentations & Invited Talks

SPIE Photonics West AR|VR|MR, San Francisco, USA 01/2022

- Invited talk “Machine Intelligence-Driven Holographic Displays for Virtual and Augmented Reality”.

ACM SIGGRAPH Asia (virtual) 12/2021

- Technical paper (Neural 3D Holography) presented.

ACM SIGGRAPH, USA (virtual) 08/2021

- Technical paper (End-to-end Designed Compound Optics and Image Processing) presented.

IEEE International Conference on Computational Photograph (ICCP) (virtual) 05/2021

- Technical paper (Depth Estimation and All-in-focus Imaging with Learned Optics) and Optics-track paper (Neural Holography) accepted and presentation.

Stanford Center for Image System Engineering (SCIEN) Seminars (virtual) 02/2021

- Invited talk “Neural Holography: Incorporating Optics and Artificial Intelligence for Next-generation Computer-generated Holographic Displays”.

ACM SIGGRAPH Asia (virtual) 12/2020

- Technical paper (Neural Holography with Camera-in-the-loop Training) presented.

OSA Frontiers in Optics (FiO), Washington DC, USA (virtual) 09/2020

- Invited talk “Computational Holographic Display for Virtual and Augmented Reality”.

ACM SIGGRAPH, Washington DC, USA (virtual) 08/2020

- Technical papers (Computational Super-resolved SPAD Camera), Course (Deep Optics), and Emerging Technologies (Neural Holography), presented.

Optics Frontier Online: Optical Imaging & Display, Chinese Laser Press & SPIE.Digital Library 06/2020

- Invited talk “Computational Photography: Co-design of Optics and Image Processing”.

GAMES Technical Webinar, The Graphics & Mixed Environment Seminar 01/2020

- Invited talk “Co-design of Optics and Algorithm: Computational Imaging with Wave Optics”.

ACM SIGGRAPH Asia, Brisbane, Australia 11/2019

- Technical papers (Large-FOV Imaging, Near-eye Holographic Display) presented.

Computational Imaging Networking at Leica Camera, Wetzlar, Germany 10/2019

- Invited keynote “Co-design of Optics and Algorithms at Leica Camera World”.

The Computer Graphics Seminar at Max-Planck-Institute (MPI), Saarbrücken, Germany 10/2019

- Invited talk “Computational Displays for VR/AR/MR Enhancement” at MPI.

ACM SIGGRAPH Asia, Tokyo, Japan 12/2018

- Doctoral Consortium presentation on Computational Imaging with Diffractive Optics.

ACM SIGGRAPH, Vancouver, Canada 08/2018

- Technical paper (End-to-end Optimization of Optics & Image Processing) presented.

IEEE Computer Vision and Pattern Recognition (CVPR), Salt Lake City, US 06/2018

- Main conference paper accepted and poster presentation.

IEEE International Conference on Computational Photograph (ICCP), Pittsburgh, US 05/2018

- Oral paper accepted and presentation. Visited Carnegie Mellon University.

ACM SIGGRAPH Asia, Bangkok, Thailand 11/2017

- Technical paper (Mix-and-match Holography) presented.

IEEE International Conference on Computer Vision (ICCV), Venice, Italy 10/2017

- Main conference paper accepted and poster demonstration. Doctoral Consortium presentation.

IEEE Computer Vision and Pattern Recognition (CVPR), Honolulu, US 07/2017

- Computational Camera & Display workshop posters accepted and presentation.

IEEE International Conference on Computational Photograph (ICCP), Stanford, US 05/2017

- Poster demonstration accepted and presentation.

ACM SIGGRAPH Asia, Macau, China 12/2016

- Workshop papers accepted and oral presentations. Emerging-tech exhibition demo presented.

ACM SIGGRAPH, Anaheim, US 07/2016

- Technical paper (The Diffractive Achromat) presented.

IEEE International Conference on Computational Photograph (ICCP), Evanston, US 05/2016

- Poster demonstration accepted and presentation. Visited Northwestern University.

SID Information Display Week Technical Symposium, US & Canada 2011-2022

22’ San Jose, California, 21’ Virtual, 18’, Los Angeles, California, 16’, San Francisco, California, 14’, San Diego, California, 13’, Vancouver, British Columbia, 12’, Boston, Massachusetts, 11’, Los Angeles, California

Granted Patents

- Xu Liu, Xinxing Xia, **Yifan Peng**, Haifeng Li, Zhenrong Zheng. United States Patent 9036003, Multi-pitching angle suspended 3D display device with 360-degree field of view.
- **Yifan Peng**, Guang Yang, Ke Shang. United States Patent 9800863, Three dimensional display apparatus, display method and electronic device.

*** for research publication list, please refer to Google Scholar url (https://scholar.google.com/citations?user=UMveGGwAAAAJ&hl=en&authuser=1).*

Language Skills

English, Chinese Mandarin, Cantonese, Minnanese (Taiwanese)