XINGE YANG

Thuwal, Saudi Arabia ◇ singer-yang.github.io ◇ +966-545659075 ◇ xinge.yang@kaust.edu.sa

EDUCATION

King Abdullah University of Science and Technology (KAUST) 05/2022 - Present
PhD in Computer Science. Advisor: Wolfgang Heidrich

King Abdullah University of Science and Technology (KAUST) 08/2020 - 05/2022
M.S. in Computer Science. Advisor: Wolfgang Heidrich
Thesis: Automatic Lens Design based on Differentiable Ray-tracing.

University of Science and Technology of China (USTC) 09/2016 - 06/2020
B.S. in Physics and Computer Science

PUBLICATIONS

Automatic Lens Design based on Differentiable Ray-tracing. 2022
X. Yang, Q. Fu, W. Heidrich. OSA Imaging and Applid Optics Congress - Computational Optical Sensing and Imaging **(COSI). oral**

RESEARCH EXPERIENCE

Research Assistant: Differentiable Computational Lens Design 08/2020 - Present
VCC Computational Imaging Group, KAUST Thuwal, Saudi Arabia

· Work on differentiable ray tracing, differentiable optical design, optics and network co-design.
· Maintain and develop our own differentiable ray tracer "DeepLens" (>8k lines of Python code).

Research Assistant: BLE Communication 11/2019 - 09/2020
LINKE Lab, USTC Hefei, China

· Developed an automated control program for up-to-128 microcontroller clusters in C and Python.
· Developed a program to extract continuous BLE signal patterns for wireless charging in C.

Research Intern: Quantum Optics 07/2019 - 07/2019
Quantum Photonics Lab, NTU Singapore

· Participated in building an optical path to measure coherent activation of quantum materials.
· Measured optical and electronic coherent activation of the 4H-SiC material at room temperature.

Research Intern: Computational Imaging 09/2018 - 10/2018
Shanghai Institute for Advanced Studies, USTC Shanghai, China

· Simulated underwater imaging process and re-implemented a single-photon image reconstruction algorithm in MATLAB.

TEACHING EXPERIENCE

TA for GAMES204: Computational Imaging 09/2022 - 12/2022
Chinese Graphics And Mixed Environment Symposium(GAMES) Webinar Online

Developed and graded assignments on computational imaging topics including: image signal processing, high dynamic range imaging, tone mapping, image deblurring, and multi-image fusion.

SERVICES

Reviewer for: IEEE Transactions on Pattern Analysis and Machine Intelligence(**TPAMI**), Optics Express(**OE**)

SKILLS & INTERESTS

Programming Language: Python, Pytorch, MATLAB, C/C++, CUDA
Auto-Diff Framework: PyTorch, DeepLens, Mitsuba2