Xinge Yang

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singer-yang.github.io

EDUCATION

King Abdullah University of Science and Technology **Thuwal, Saudi Arabia**
MS/PhD, Computer Science, Visual Computing Center *Aug.2020 - present*
GPA:3.75/4.0, Advisor: Wolfgang Heidrich

University of Science and Technology of China **Hefei, China**
BS, Physics(major), Computer Science(minor) *Sept.2016 - Jun.2020*
GPA: 3.27/4.3

PUBLICATIONS

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

RESEARCH

Differentiable Optics/Computational Photography **Thuwal, Saudi Arabia**
VCC Imaging Group, KAUST *Aug. 2020- present*

- Developed a differentiable renderer and applied it to design refractive and diffractive optical lenses.
- Proposed an optimization strategy for automatic camera/smartphone lens design without any preliminary design or control.
- End2End designed imaging lenses and algorithms(Neural Network/ISP) for computational photography applications.

Wireless Communication **Hefei, China**
LINKE Lab, USTC *Nov. 2019 - Jun. 2020*

- Used BLE signals to activate passive body-embedded devices to acquire and transmit health data.
- Designed a large scale microcontroller programming method, and achieved automatic control of up to 128 microcontrollers.

Quantum Optics **Singapore**
Quantum Photonics Lab, NTU *Jul. 2019 - Sept. 2019*

- Developed an optical and electronic setup for coherent activation of a new quantum material. Realized room-temperature quantum communication based on the material.

Computational Imaging **Shanghai, China**
Shanghai Institute for Advanced Studies, USTC *Sept. 2018 - Oct. 2018*

- Re-implemented an underwater image reconstruction algorithm with single-photon camera data.

SERVICES

- Reviewer for IEEE Transactions on Pattern Analysis and Machine Intelligence(**TPAMI**)

PROGRAMMING

- Python, Matlab, C/C++, CUDA
- Pytorch, Mitsuba2, OpenGL