Zheng Shi

Website: https://zheng-shi.github.io • Phone: (401) 527-6699 • E-Mail: zhengshi@princeton.edu

Education History

2018 - Present   PhD Candidate in Computer Science, advised by Prof. Felix Heide

Princeton University, Princeton, NJ

2014 - 2018   Sc.B. in Applied Mathematics, with Honor, *Magna Cum Laude*

Brown University, Providence, RI

Academic Honors

2018   **Recipient of Rohn Truell Prize**

Annual award to the most outstanding member of the graduating class concentrating in Applied Mathematics at Brown University

Research Interests:

My research interests are in machine learning for computational photography and computer vision. I am currently working on developing specialized flat optics, such as diffractive optical elements (DOEs) and metalens, with end-to-end optimization methods for downstream vision tasks.

Publications

2022   **Seeing Through Obstructions with Diffractive Cloaking**
Zheng Shi, Yuval Bahat, Seung-Hwan Baek, Qiang Fu, Hadi Amata, Xiao Li, Praneeth Chakravarthula, Wolfgang Heidrich, Felix Heide
SIGGRAPH 2022, poster at ICCP 2022

2021   **Centimeter-Wave Free-Space Time-of-Flight Imaging**
Seung-Hwan Baek, Noah Walsh, Ilya Chugunov, **Zheng Shi**, Felix Heide
ACM Transactions on Graphics (ToG), presented at SIGGRAPH 2022

2021   **Low-Cost SPAD Sensing for Non-Line-Of-Sight Tracking, Material Classification and Depth Imaging**
Clara Callenberg, **Zheng Shi**, Felix Heide, Matthias B. Hullin
SIGGRAPH 2021

2021   **ZeroScatter: Domain Transfer for Long Distance Imaging and Vision through Scattering Media**
Zheng Shi*, Ethan Tseng*, Mario Bijelic*, Werner Ritter, Felix Heide
CVPR 2021

Experience

2022   **Research Intern at Meta Reality Labs**
Co-design DOE and reconstruction algorithm for miniature cameras used on AR glasses.

2017   **Data Scientist Intern at Facebook Search Whole Page Ranking Team**
Build probabilistic model to improve page ranking algorithm

2016   **Data Analytics Intern at Facebook Core Ads Team**
Improve the daily budge model accuracy

Service
Reviewer for Optica Express, Transactions on Computational Imaging, IEEE VR, Eurographics and CVPR.

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<u>Teaching</u>

2020 - 2021   **Graduate Assistant Instructor at Princeton University**
- COS426: Computer Graphics, *Spring 2021*
- SML201: Introduction to Data Science, *Fall 2020, Spring 2020, Fall 2021, Fall 2022 (head TA)*

2016   **Math Group Tutor for Linear Algebra and Honor Calculus at Brown University**

2015   **Grader for Introductory Calculus and Linear Algebra of Brown University**

<u>Outreach</u>

2020   **20K Inspirational Stories Contributor – Día de la Ciencia**

<u>Skills</u>

Python, TensorFlow, PyTorch, MATLAB, R, SQL, LaTex, Git