

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

- 2023 **Research Intern at Meta Reality Labs**
Co-design on-sensor and post-processing algorithms for energy-efficient cameras tailored for AR glasses.
- 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 budget model accuracy

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Teaching

- 2019 - Now **Graduate Assistant Instructor at Princeton University**
- COS426: Computer Graphics, *Spring 2021*
 - SML201: Introduction to Data Science, *Fall 2019, Spring 2020, Fall 2020, Fall 2021, Fall 2022 (head TA), Spring 2023 (head TA), Fall 2023 (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**

Outreach

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

Service

Reviewer for Springer Virtual Reality, Optica Express, Transactions on Computational Imaging, IEEE VR, Eurographics, Siggraph Asia ICCV and CVPR.

Skills

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