

Ethan Tseng

eftseng@princeton.edu | <https://ethan-tseng.github.io> | 408-429-3181 | U.S. Citizen

Education

Princeton University

Third year PhD student in Computer Science advised by Prof. Felix Heide

GPA: 3.78 / Expected Graduation 2023

Carnegie Mellon University

BS in Electrical and Computer Engineering with Additional Major in Computer Science

GPA: 3.93 / Class of 2018

Publications

Differentiable Compound Optics and Processing Pipeline Optimization for End-to-end Camera Design

- Ethan Tseng*, Ali Mosleh*, Fahim Mannan*, Karl St-Arnaud, Avinash Sharma, Yifan Peng, Alexander Braun, Derek Nowrouzezahrai, Jean-François Lalonde, Felix Heide
ACM Transactions on Graphics 2021 (to be presented at SIGGRAPH 2021)

Neural Nano-Optics for High-quality Thin Lens Imaging

- Ethan Tseng*, Shane Colburn*, James Whitehead, Luocheng Huang, Seung-Hwan Baek, Arka Majumdar, Felix Heide
Preprint

ZeroScatter: Domain Transfer for Long Distance Imaging and Vision through Scattering Media

- Zheng Shi*, Ethan Tseng*, Mario Bijelic*, Werner Ritter, Felix Heide
CVPR 2021

Hardware-in-the-loop Phase Retrieval for Holographic Near-Eye Displays

- Praneeth Chakravarthula, Ethan Tseng, Tarun Srivastava, Henry Fuchs, Felix Heide
SIGGRAPH Asia 2020

Learning Rank-1 Diffractive Optics for Single-shot High Dynamic Range Imaging

- Qilin Sun, Ethan Tseng, Qiang Fu, Wolfgang Heidrich, Felix Heide
CVPR 2020 (Oral)

Hyperparameter Optimization in Black-box Image Processing using Differentiable Proxies

- Ethan Tseng, Felix Yu, Yuting Yang, Fahim Mannan, Karl St-Arnaud, Derek Nowrouzezahrai, Jean-François Lalonde, and Felix Heide
SIGGRAPH 2019

Automated Detection of Left Ventricle in Arterial Input Function Images for Inline Perfusion Mapping using Deep Learning: A study of 15,000 Patients

- Hui Xue, Ethan Tseng, Kristopher D Knott, Tushar Kotecha, Louise Brown, Sven Plein, Marianna Fontana, James C Moon, Peter Kellman
Magnetic Resonance in Medicine
-

Persona: A High-Performance Bioinformatics Framework

- Stuart Byma, Sam Whitlock, Laura Flueratoru, Ethan Tseng, Christos Kozyrakis, Edouard Bugnion, and James Larus
USENIX ATC 2017
-

Experience**Research Intern – NHLBI Medical Signal and Image Processing**

Bethesda, MD / Summer 2018

- Worked with Dr. Peter Kellman on designing residual U-Net for detecting left ventricle in myocardial perfusion MR scans for determining arterial input function

Undergraduate Student Researcher – CMU Image Science Lab

Pittsburgh, PA / Summer 2017

- Worked with Prof. Aswin Sankaranarayanan on developing camera-projector system for measuring light transport in 3D space

Research Intern – EPFL Very Large Scale Computing Laboratory

Lausanne, Switzerland / Summer 2016

- Worked in Prof. James Larus' group to optimize high-throughput and low-latency genetic sequence aligner

Software Engineering Intern – Cadence Design Systems

Beijing, China / Summer 2015

- Developed code for the Analog Hardware Description Language (AHDL) section of Spectre, a circuit simulation language
-

Teaching**Lead Graduate Assistant Instructor – Princeton COS 426 (Graphics)**

Princeton, NJ / Spring 2020, Spring 2021

Lead Graduate Assistant Instructor – Princeton COS 597A (Imaging the Invisible)

Princeton, NJ / Fall 2020

Graduate Assistant Instructor – Princeton COS 217 (Intro Systems)

Princeton, NJ / Fall 2019

Academic Development Peer Tutor – CMU

Pittsburgh, PA / Fall 2015, Spring 2016

Teaching Assistant – CMU 15-150 (Functional Programming)

Pittsburgh, PA / Fall 2015

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

Princeton, NJ / Summer 2020

Graduate Research Instructor – Princeton AI4ALL

Princeton, NJ / Summer 2019

Skills	Python, TensorFlow, PyTorch, MATLAB, C, C++, Latex, Git
Awards	ISMRM Workshop on Machine Learning Part II, 2018 – Third Place Award for Poster Abstracts International Baccalaureate Diploma (Score: 45 / 45)
