Ethan Tseng

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Education

Princeton University
Fourth 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

Neural Nano-Optics for High-quality Thin Lens Imaging

- Ethan Tseng*, Shane Colburn*, James Whitehead, Luocheng Huang, Seung-Hwan Baek, Arka Majumdar, Felix Heide
  Nature Communications 2021

Neural Étendue Expander for Ultra-Wide-Angle High-Fidelity Holographic Display

- Seung-Hwan Baek*, Ethan Tseng*, Andrew Maimone, Nathan Matsuda, Grace Kuo, Qiang Fu, Wolfgang Heidrich, Douglas Lanman, Felix Heide
  Preprint

Gated3D: Monocular 3D Object Detection From Temporal Illumination Cues

- Frank Julca-Aguilar, Jason Taylor, Mario Bijelic, Fahim Mannan, Ethan Tseng, Felix Heide
  ICCV 2021

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
  SIGGRAPH 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

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 2020

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 – Adobe (Computer Vision, ML & Computational Photography)
San Jose, CA (virtual) | Summer 2021

Research Intern – NHLBI Medical Signal and Image Processing
Bethesda, MD | Summer 2018

Undergraduate Student Researcher – CMU Image Science Lab
Pittsburgh, PA | Summer 2017

Research Intern – EPFL Very Large Scale Computing Laboratory
Lausanne, Switzerland | Summer 2016

Software Engineering Intern – Cadence Design Systems
Beijing, China | Summer 2015

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)