Ethan Tseng

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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
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 – 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)