

# Ethan Tseng

eftseng@cs.princeton.edu | 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

### 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 how light rays travel 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 597A (Imaging the Invisible)**

*Princeton, NJ / Fall 2020*

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

*Princeton, NJ / Spring 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**

ISMIRM Workshop on Machine Learning Part II, 2018 – Third Place Award for Poster Abstracts

Carnegie Institute of Technology Research Honors

Carnegie Mellon University Dean's List (Fall 2014, Spring 2015, Fall 2016, Spring 2016, Fall 2017, Fall 2018, Spring 2019)

CMU Mobot Competition 2016 – The Ben Brown (Judges) Choice Prize

CMU Mobot Competition 2015 – Undergraduate Category: Second Prize

International Baccalaureate Diploma (Score: 45 / 45)

---