### Education

#### UC San Diego, La Jolla, CA

2021 (ongoing)

PhD Student, Computer Science and Engineering

Jacobs School of Engineering Fellowship, SHORE Fellowship

Advisor: Ravi Ramamoorthi

### Williams College, Williamstown, MA

2017 - 2021

Bachelor of Arts in Computer Science and Mathematics

Magna Cum Laude

GPA: 3.94

### University of Oxford, Oxford, UK

2019 - 2020

Williams Exeter Programme at Oxford

GPA: 4.0

### The Hotchkiss School, Lakeville, CT

2015 - 2017

Cum Laude

### **Publications**

**A. Trevithick**, and B. Yang, "GRF: Learning a General Radiance Field for 3D Representation and Rendering," ICCV, 2021

Featured: NeRF Explosion, AI Times

### **Research Interests**

3D Reconstruction, Neural Rendering, Implicit Neural Representations, Theory of Deep Learning

# Research Experience

**Research Intern** – Max Planck Institute for Informatics

May – September 2021

- Research neural rendering in Graphics, Vision, and Video Group under Christian Theobalt

### Summer Research Fellow – Williams College

2020

- Researched implicit representations and Neural Tangent Kernel of MLPs with periodic activations

### Wilmers Fellow – University of Oxford

2020

Researched generalization in neural scene representations with Bo Yang

Extended neural radiance fields to synthesize novel views from sparse inputs and predict nove	el
scene representations in a single forward pass	
Researcher – Washington State University	2019
School Honors Science Program – Michigan State University	2016
ınical Skills	
Python, Pytorch, TensorFlow, Jax, Java, C, SQL	
urds	
Jacobs School of Engineering Fellowship and SHORE Fellowship from UC San Diego	
Elected to Phi Beta Kappa and Sigma Xi at Williams College	
Robert G. Wilmers, Jr. 1990 Fellowship	
Williams College Summer Research Fellowship	
John Houghton Harris Memorial Scholarship	
Alumni-Sponsored Internship Program Grant	
Amherst College Schupf Research Scholarship for \$20,000 (nominated)	
ching Experience	
hing Assistant in Measure Theory & Hilbert Spaces – Williams College	2020
Hold seven review sessions per week to present solutions to hardest problems	

<b>Teaching Assistant in Measure Theory &amp; Hilbert Spaces</b> – Williams College	2020
<ul> <li>Hold seven review sessions per week to present solutions to hardest problems</li> </ul>	
<b>Teaching Assistant in Introduction to Computer Science</b> – Williams College	2019
- Administer Python programming lab help for seven hours per week and grade student labs	

Grade problem sets in R and hold weekly help session

**Teaching Assistant in Computational Linear Algebra** – Williams College

# Industry Experience

Data Analyst Intern – Haystack Search, Brooklyn, NY

2018

2018

- Cleaned and analyzed data with SQL for predictive analytics and hyperlocal product search

### **Projects**

### Image Regression with Periodic Activations and Neural Tangents (Code)

2020

- Proposed a novel implicit neural representation architecture, SINONE
- Showed simple architecture performs on par with the Fourier positional embedding in both theory
   and in practice in the task of image regression

ChessAI (Code) 2020

 Implemented alpha-beta pruning with quiescence search for arbitrary two-player games and constructed a novel chess heuristic for automated chess playing

## References

- Ravi Ramamoorthi, Professor of Computer Science at UC San Diego, ravir@cs.ucsd.edu
- Bo Yang, Assistant Professor at The Hong Kong Polytechnic University, bo.yang@cs.ox.ac.uk
- Cesar Silva, Hagey Family Professor of Mathematics at Williams College, csilva@williams.edu
- Leo Goldmakher, Assistant Professor at Williams College, leo.goldmakher@williams.edu