

# Ankit Ranjan

🏠 ankit.io

📧 ankitr

✉ ankit.ranjan@sjc.ox.ac.uk

☎ +44 7568929757

🌐 ranjanankit

## EDUCATION

---

### University of Oxford

*Bachelor of Arts in Neuroscience; Average Prelims Mark: 74*

Oxford, UK

*Oct. 2017 –*

## RESEARCH EXPERIENCE

---

### Camera Culture Group, MIT Media Lab

*Visiting Student*

Cambridge, MA

*Jun. 2019 –*

**Reconstruction in Scattering Media:** I helped use a linear model of light transport through scattering media to reconstruct a target in a medium with unknown optical properties. (Manuscript submitted)

**Variational Optimization:** Variational Optimization is a gradient descent method which uses gradients estimated from perturbations around the current parameter value. I worked on a library for Variational Optimization and applying variational optimization to the reconstruction of a target in a scattering medium.

**Monte Carlo Simulations:** Monte Carlo Simulations of photon transport are used to model how light moves in a scattering medium. I optimized a Monte Carlo Renderer by implementing next event estimation and weighting photon absorption.

### Oxford Functional Neurosurgery Group

*Undergraduate Researcher*

Oxford, UK

*Jan. 2019 –*

**DRG Stimulation:** Studied the effects of Dorsal Root Ganglion stimulation on proprioception in human patients. Also analyzing the relationship between local field potentials recorded from the DRG and gait.

**Prosthetic Communication:** Developed a laser diode communication mechanism to allow communication between an implanted neural interface and a prosthetic.

## WORK EXPERIENCE

---

### Retool

*Software Development Intern*

San Francisco, CA

*Jul. 2018 – Sept. 2018*

Retool is a tool to make building internal tools much faster. I worked as a full-stack developer and the first employee of the YC-backed startup, helping with a successful startup launch.

### Emerson Collective

*Developer*

Palo Alto, CA

*Mar. 2017 – Oct. 2017*

At Emerson Collective, I developed a project-management tool, Vortex, to source data from various databases and create presentation-ready visuals for executives.

### Coda

*Software Development Intern*

Palo Alto, CA

*Sept. 2014 – Aug. 2015*

I worked on the backend infrastructure to manage documents with multiple concurrent users and built a rendering script to create thumbnails for documents.

### Metanautix

*Software Development Intern*

Palo Alto, CA

*Jun. 2014 – Aug. 2014*

I used the product to cluster users based on their software use for a client with 1M+ customers.

## PUBLICATIONS

---

Maeda, T., **Ranjan, A.**, & Raskar, R. (2019). Towards Calibration-Free Imaging through Dense, Volumetric Scattering with Differential Diffusion Approximation Model. *In Review.*

## PROGRAMMING SKILLS

---

**Languages:** Python, Javascript, C++ (GPU), SQL, Java, Lisp

**Technologies:** Docker, CUDA, TensorFlow, JAX