# Wallace Peaslee

wep25@cam.ac.uk | linkedin.com/in/wallacepeaslee | wallacepeaslee.github.io

## EDUCATION

**University of Cambridge**, Cambridge, UK October 2022 - Present
- PhD student in applied mathematics supervised by Professor Carola Schönlieb

**Duke University**, Durham, NC **GPA: 3.96** August 2018 - May 2022
- *Bachelor of Science in Mathematics, Bachelor of Science in Computer Science*, Magna Cum Laude
- Graduation with Distinction in Mathematics for thesis "Dolbeault Cohomology of Non-Compact Metric Graphs."
- *Awards*: HackDuke Wolfram Prize, HackDuke Capitol One Prize, National Merit Finalist

## RESEARCH EXPERIENCE

**ARTICT**, **Applied Mathematics and Computer Vision Research**, Duke University May 2020 - Present
- Develop algorithms for art analysis using high-dimensional and multimodal data from scientific imaging of art.
- Supervised by Distinguished Professor Ingrid Daubechies as part of the international research team ARTICT.
- Apply dimension reduction, variations of wavelet transforms, machine learning, and other signal processing.
- Completed independent study semesters, producing reports *Investigating Art with Image Processing and Machine Learning* and *Mathematics and Image Processing for Art Investigation*, alongside funded summer research.

**Budapest Semesters in Mathematics, Forbidden Configurations**, Remote August 2020 - Present
- Research the field of forbidden configurations, which has deep connections to combinatorics and graph theory.
- Collaborate with Dr. Attila Sali (Alfréd Rényi Institute of Mathematics) on extremal problems related to finding maximal matrices that do not contain certain forbidden submatrices; began as BSM research course (grade A+).

**PRUV Fellow**, Duke University March March 2021 - May 2022
- Researched topics related to Dolbeault cohomology and graphs under the guidance of Dr. Joseph Rabinoff with the support of the NSF-Funded PRUV fellowship, with an intensive research period in summer 2021.
- Studied topics related to Riemann surfaces, differential geometry, cohomology theory, and category theory.

**Navigen Pharmaceuticals, Data Science Intern**, Salt Lake City, UT May 2019 – August 2019
- Implemented specialized clustering and cleaning algorithms to exploit unique attributes of the data, enabling new forms of analysis for millions of peptide sequences and helping laboratory scientists process data.
- Automated portions of the data-processing pipeline and played a major role in the reduction of analysis time from two weeks to a couple of hours by writing programs using tools such as shell scripting, Python, and Java.

## CONFERENCE PRESENTATIONS

**Computational Approaches for Technical Imaging in Cultural Heritage**, Virtual April 2022
- Poster titled *Enhancing Underdrawing Visualization using Adaptive and Localized Image Analysis of Reflectance Hyperspectral Imaging Data from a 15th Century Painting*

**IEEE International Conference on Computation Photography**, CalTech August 2022
- Awarded NSF conference travel grant for poster *Global and Local Dimension Reduction Methods for Enhancing Underdrawing Visualization using Reflectance Hyperspectral Imaging Data from a 15th Century Painting*.

**Computational Methods for Cultural Heritage**, British Museum September 2022
- Presentation related to work completed with the ARTICT research group.

## CAMPUS INVOLVEMENT & TEACHING

**Graduate Computer Vision Teaching Assistant**, Duke University January 2022 – May 2022
- Teaching Assistant for COMPSCI 527: Computer Vision, a graduate course taught by Professor Carolo Tomasi.
- Supported students through weekly office hours and grading.

**Jacopino Art Restoration**, Duke University and North Carolina Museum of Art September 2020 – December 2021
- Teaching Duke undergraduates image processing techniques through digital art restoration projects.
- Creating digital rejuvenations of 14$^{th}$-centuray artwork in collaboration with the North Carolina Museum of Art

**Research Africa, ISSN 2575-6990**, Duke University

*Lead Editor* April 2020 – May 2022
- Supported the development of a scholarly network on current topics broadly related to Africa by distributing information to approximately 1,5000 scholars through the Research Africa email list.
- Managed a three-person team that revises book, literature, and media reviews for a tri-annual publication.

*Associate Editor* April 2019 – April 2020
- Assisted the Research Africa team by editing reviews in addition to contacting publishers and reviewers.

## TECHNICAL SKILLS

- *Languages*: Python, Java, SQL, C.
- *Software & Packages*: LaTeX, NumPy, SciPy, Spectral Python (SPY), Pillow (PIL), GIT, GIMP