

# Connor Greenwell

connorgreenwell.com  
cgree3 (at) gmail (dot) com

kitware.com/connor-greenwell  
(firstname).(lastname)@kitware.com

## Areas of Expertise

Computer Vision, Deep Learning, Remote Sensing, Modeling Human Dynamics, Multimodal Fusion

## 1 Education

**Ph.D in Computer Science** 2016—2022  
University of Kentucky Lexington, KY  
*Advisor: Nathan Jacobs*  
*Dissertation title: “Image Geo-localization with Cross-Attention”*

**B.S in Computer Science & Mathematics** 2011—2016  
University of Kentucky Lexington, KY

## 2 Appointments

**Senior Research Scientist** 2022—Present  
Computer Vision Team, Kitware Inc. Richmond, VA

**Graduate Research Assistant** 2016—2022  
Dept. of Computer Science, University of Kentucky Lexington, KY

**Research and Development Intern** Summer 2021  
Computer Vision Team, Kitware Inc. Richmond, VA

**Graduate Student Researcher** Summer 2019  
Natl. Security Emerging Tech. Div., Oak Ridge National Laboratory  
*Advanced Short-Term Research Opportunity (ASTRO) Program* Oak Ridge, TN

**Undergraduate Research Assistant** 2014—2016  
Dept. of Computer Science, University of Kentucky Lexington, KY

**Visiting Undergraduate Research Assistant** Summer 2014  
University of North Carolina at Charlotte Charlotte, NC  
*NSF Research Experience for Undergraduates Program*

## 3 Publications

(For the most up-to-date list, see my [Google Scholar page](#))

### 3.1 Journal Publications

Liang, Gongbo, Connor Greenwell, Yu Zhang, Xin Xing, Xiaoqin Wang, Ramakanth Kavuluru, and Nathan Jacobs. “Contrastive cross-modal pre-training: A general strategy for small sample medical imaging”. In: *IEEE Journal of Biomedical and Health Informatics*. 2021.

Islam, Mohammad T, Connor Greenwell, Richard Souvenir, and Nathan Jacobs. “Large-Scale Geo-Facial Image Analysis”. In: *EURASIP Journal on Image and Video Processing*. 2015.

## 3.2 Refereed Conference Papers

Crall, Jon, Connor Greenwell, David Joy, Matthew Leotta, Aashish Chaudhary, and Anthony Hoogs. “GeoWATCH for Detecting Heavy Construction in Heterogeneous Time Series of Satellite Images”. In: *IEEE International Geoscience and Remote Sensing Symposium*. 2024.

Greenwell, Connor, Jon Crall, Matthew Purri, Kristin Dana, Nathan Jacobs, Armin Hadzic, Scott Workman, and Matt Leotta. “WATCH: Wide-Area Terrestrial Change Hypercube”. In: *IEEE/CVF Winter Conference on Applications of Computer Vision*. 2024.

Brodie, Benjamin, Subash Khanal, Muhammad Usman Rafique, Connor Greenwell, and Nathan Jacobs. “Hierarchical Probabilistic Embeddings for Multi-View Image Classification”. In: *IEEE International Geoscience and Remote Sensing Symposium*. 2021.

Workman, Scott, M. Usman Rafique, Hunter Blanton, Connor Greenwell, and Nathan Jacobs. “Single Image Cloud Detection via Multi-Image Fusion”. In: *IEEE International Geoscience and Remote Sensing Symposium*. 2020.

Salem, Tawfiq, Connor Greenwell, Hunter Blanton, and Nathan Jacobs. “Learning to Map Nearly Anything”. In: *IEEE International Geoscience and Remote Sensing Symposium*. 2019.

Greenwell, Connor, Scott Workman, and Nathan Jacobs. “What Goes Where: Predicting Object Distributions From Above”. In: *IEEE International Geoscience and Remote Sensing Symposium*. 2018.

Zhai, Menghua, Tawfiq Salem, Connor Greenwell, Scott Workman, Robert Pless, and Nathan Jacobs. “Learning Geo-Temporal Image Features”. In: *British Machine Vision Conference*. 2018.

Baltenberger, Ryan, Menghua Zhai, Connor Greenwell, Scott Workman, and Nathan Jacobs. “A Fast Method for Estimating Transient Scene Attributes”. In: *IEEE Winter Conference on Applications of Computer Vision*. 2016.

Workman, Scott, Connor Greenwell, Menghua Zhai, Ryan Baltenberger, and Nathan Jacobs. “DeepFocal: A Method for Direct Focal Length Estimation”. In: *International Conference on Image Processing*. 2015.

## 3.3 Workshop Publications

Blanton, Hunter, Connor Greenwell, Scott Workman, and Nathan Jacobs. “Extending Absolute Pose Regression to Multiple Scenes”. In: *CVPR Joint Workshop on Long-Term Visual Localization, Visual Odometry and Geometric and Learning-based SLAM*. 2020.

Greenwell, Connor, Scott Workman, and Nathan Jacobs. “Implicit Land Use Mapping Using Social Media Imagery”. In: *IEEE Applied Imagery and Pattern Recognition*. 2019.

Greenwell, Connor, Scott Spurlock, Richard Souvenir, and Nathan Jacobs. “GeoFaceExplorer: Exploring the Geo-Dependence of Facial Attributes”. In: *ACM SIGSPATIAL International Workshop on Crowdsourced and Volunteered Geographic Information (GEOCROWD)*. 2014.

## 3.4 Dissertation

Greenwell, Connor. “Image Geo-localization with Cross-Attention”. PhD thesis. University of Kentucky, 2022.

## 4 Funding

### **Complete Urban to Rural Balanced Streets by Artificial Intelligent Design**

Department of Transportation, SBIR (Phase I)

\$135,000

PI: **Connor Greenwell**

9/2024—3/2025

Co-PI(s)/Co-I(s): Claudio Silva (NYU), Jaclyn Hakes (MJ Engineering)

We support DoT's *Complete Streets AI (CSAI)* initiative by using recent advances in computer vision to build more complete digital representations of the nations transportation infrastructure.

## 5 Talks

### **Implicit Land Use Mapping Through Geotagged Imagery**

October, 2019.

IEEE Applied Imagery and Pattern Recognition Workshop

Washington, DC

### **GeoFaceExplorer: Exploring the Geo-Dependence of Facial Attributes**

November, 2014.

ACM SIGSPATIAL GEOCROWD Workshop

Dallas, TX

## 6 Professional Service

### 6.1 Reviewing

IEEE/CVF Conference on Computer Vision and Pattern Recognition 2019—2024

IEEE Winter Conference on Applications of Computer Vision 2019—2024

EarthVision: Large Scale Computer Vision for Remote Sensing Imagery 2021—2023

ISPRS Journal of Photogrammetry and Remote Sensing 2020—2021

AAAI Conference on Artificial Intelligence 2021

British Machine Vision Conference 2020