



## Publications

### Refereed Journal Publications

- [1] Nathan Jacobs, Scott Workman, and Richard Souvenir. Cloudmaps from Static Ground-View Video. *Image and Vision Computing (IVC)*, 52:154–166, August 2016.
- [2] Scott Workman, Richard Souvenir, and Nathan Jacobs. Scene Shape Estimation from Multiple Partly Cloudy Days. *Computer Vision and Image Understanding (CVIU)*, 134:116–129, May 2015.

### Refereed Conference Publications

- [3] Connor Greenwell, Scott Workman, and Nathan Jacobs. What Goes Where: Predicting Object Distributions from Above. In *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2018.
- [4] Tawfiq Salem, Menghua Zhai, Scott Workman, and Nathan Jacobs. A Multimodal Approach to Mapping Soundscapes. In *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2018.
- [5] Weilian Song, Scott Workman, Armin Hadzic, Xu Zhang, Eric Green, Mei Chen, Reginald Souleyrette, and Nathan Jacobs. FARSA: Fully Automated Roadway Safety Assessment. In *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2018.
- [6] Scott Workman, Menghua Zhai, David J. Crandall, and Nathan Jacobs. A Unified Model for Near and Remote Sensing. In *IEEE International Conference on Computer Vision (ICCV)*, 2017.
- [7] Scott Workman, Richard Souvenir, and Nathan Jacobs. Understanding and Mapping Natural Beauty. In *IEEE International Conference on Computer Vision (ICCV)*, 2017.
- [8] Menghua Zhai, Zach Bessinger, Scott Workman, and Nathan Jacobs. Predicting Ground-Level Scene Layout from Aerial Imagery. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017.
- [9] Scott Workman, Menghua Zhai, and Nathan Jacobs. Horizon Lines in the Wild. In *British Machine Vision Conference (BMVC)*, 2016.
- [10] Menghua Zhai, Scott Workman, and Nathan Jacobs. Camera Geo-Calibration using an MCMC Approach. In *International Conference on Image Processing (ICIP)*, 2016.
- [11] Menghua Zhai, Scott Workman, and Nathan Jacobs. Detecting Vanishing Points using Global Image Context in a Non-Manhattan World. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2016.
- [12] R. Paul Mihail, Scott Workman, Zach Bessinger, and Nathan Jacobs. Sky Segmentation in the Wild: An Empirical Study. In *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2016.
- [13] Ryan Baltenberger, 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 (WACV)*, 2016.
- [14] Tawfiq Salem, Scott Workman, Menghua Zhai, and Nathan Jacobs. Analyzing Human Appearance as a Cue for Dating Images. In *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2016.
- [15] Scott Workman, Richard Souvenir, and Nathan Jacobs. Wide-Area Image Geolocalization with Aerial Reference Imagery. In *IEEE International Conference on Computer Vision (ICCV)*, 2015.
- [16] Scott Workman, Connor Greenwell, Menghua Zhai, Ryan Baltenberger, and Nathan Jacobs. DeepFocal: A Method for Direct Focal Length Estimation. In *International Conference on Image Processing (ICIP)*, 2015.
- [17] Mohammad T. Islam, Scott Workman, and Nathan Jacobs. Face2GPS: Estimating Geographic Location from Facial Features. In *International Conference on Image Processing (ICIP)*, 2015. Oral.

- [18] Scott Workman, R. Paul Mihail, and Nathan Jacobs. A Pot of Gold: Rainbows as a Calibration Cue. In *European Conference on Computer Vision (ECCV)*, 2014.
- [19] Mohammad T. Islam, Scott Workman, Hui Wu, Richard Souvenir, and Nathan Jacobs. Exploring the Geo-Dependence of Human Face Appearance. In *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2014.
- [20] Nathan Jacobs, Scott Workman, and Richard Souvenir. Scene Geometry from Several Partly Cloudy Days. In *ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)*, 2013.
- [21] Nathan Jacobs, Mohammad Islam, and Scott Workman. Cloud Motion as a Calibration Cue. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2013.

### **Refereed Workshop Publications**

- [22] Nathan Jacobs, Scott Workman, and Menghua Zhai. Cross-view Convolutional Networks. In *IEEE Applied Imagery Pattern Recognition Workshop (AIPR)*, 2016.
- [23] Scott Workman and Nathan Jacobs. On the Location Dependence of Convolutional Neural Network Features. In *IEEE/ISPRS Workshop: Looking from above: When Earth observation meets vision (EARTHVISION)*, 2015. Acceptance rate = 30 %.

### **Abstracts**

- [24] Scott Workman and Nathan Jacobs. Scene Understanding using Clouds. In *International Computer Vision Summer School (ICVSS)*, 2014.
- [25] J. David Smith, Ryan Baltenberger, Scott Workman, and Nathan Jacobs. User-in-the-Loop Calibration and Mensuration. In *National Conference on Undergraduate Research (NCUR)*, 2014.
- [26] Ryan Baltenberger, James Knochelmann, Scott Workman, Mohammad Islam, Nathan Jacobs, and James Griffioen. Constructing a High-Resolution Mosaic of Kentucky Lake. In *Kentucky GIS Conference*, 2013. Best Student Presentation.
- [27] Xuzi Zhou, Scott Workman, Mohammad Islam, Nathan Jacobs, and James Griffioen. Cyber Infrastructure for the VOEIS Project. In *Symposium in the Mathematical, Statistical and Computer Sciences*, 2013. Best Student Presentation.
- [28] Scott Workman, James Knochelmann, Nathan Jacobs, David S. White, and Richard Hauer. Registration and Visualization of Scientific Aerial Imagery at Kentucky Lake. In *Kentucky EPSCoR Conference*, 2012.

### **Talks**

- “Computer Vision Applications of Deep Convolutional Neural Networks”, Nov. 2015, Keeping Current Seminar, Computer Science Department, University of Kentucky
- “Activity Forecasting”, Nov. 2013, Birds of a Feather, Computer Science Department, University of Kentucky
- “Camera Calibration using Atmospheric Cloud Motion”, Feb. 2013, Keeping Current Seminar, Computer Science Department, University of Kentucky

## Teaching

### Teaching Assistant

- *Special Topics in Computer Science: Learning Based Methods for Computer Vision*, CS 685, (S2015), University of Kentucky
- *Introduction to Machine Learning*, CS 485, (F2013, F2014), University of Kentucky

## Service and Affiliations

- Program Committee for:
  - ACM Workshop on Geotagging and Its Applications in Multimedia (GeoMM) (2014)
  - IEEE Conference on Computer Vision and Pattern Recognition (CVPR) (2018)
- Reviewer for:
  - Journals
    - \* IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI) (2015-)
    - \* IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS) (2015)
    - \* EURASIP Journal on Image and Video Processing (JIVP) (2015)
  - Conferences
    - \* SIGGRAPH (2018)
    - \* IEEE Conference on Computer Vision and Pattern Recognition (CVPR) (2013-)
    - \* IEEE International Conference on Computer Vision (ICCV) (2013)
    - \* European Conference on Computer Vision (ECCV) (2014)
  - Workshops
    - \* ACM Workshop on Geotagging and Its Applications in Multimedia (GeoMM) (2013)
- Volunteer/Presenter:
  - Graduate Student Representative, Association for Computing Machinery, UK Student Chapter (2014-2015)
  - Engineers Day (E-Day), University of Kentucky (2013-2014)

## Honors and Awards

- 5th Heidelberg Laureate Forum, 2017
- Outstanding Ph.D. Student in Computer Science, University of Kentucky, 2017
- Burton E. Heard Graduate Fellowship, 2016-2017
- NVIDIA Academic Hardware Grant (Tesla K40), 2015
- Presidential Fellowship (nominated), University of Kentucky, 2015
- International Computer Vision Summer School (ICVSS), 2014
- Dean's List, University of Kentucky, 2008-2010
- Alltel/Windstream Scholarship, University of Kentucky, 2008-2010