Hunter Blanton

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Education

2016–Present	Ph.D. in Computer Science Adviser: Nathan Jacobs	University of Kentucky
2012–2016	B.S. in Mathematics *Summa Cum Laude*	University of Kentucky Minor in Physics

Research Interests

Computer vision: Camera Pose Estimation, 3D Reconstruction, Novel View Synthesis

Appointments

Graduate Research Assistant, Computer Science Department — University of Kentucky
2017–Present — *Lexington, KY*

- Estimating camera pose directly from single images [13, 5].
- Generating novel views in real-world outdoor environments from a single view [2].
- Making dense estimates of scene geometry given sparse surface measurements [6].
- Diagnosing diseases from medical imagery [1, 9, 4, 3].
- Leveraging overhead imagery for ground-level predictions [11, 12, 7],

Undergratuate Research Assistant, Physics Department — University of Kentucky
2015–2016 — *Lexington, KY*

- Designed and fabricated novel electromagnets for active shielding of particle beams.
- Implemented drivers and interface software for industrial equipment.

Honors and Awards

- Dean's List, University of Kentucky, 2012-2016
- Kentucky Governor's Scholar Presidential Scholarship, University of Kentucky, 2012-2016

Publications

Refereed Journal Publications

[1] Xiaoqin Wang, Gongbo Liang, Yu Zhang, Hunter Blanton, Zachary Bessinger, and Nathan Jacobs. Inconsistent performance of deep learning models on mammogram classification. In *Journal of the American College of Radiology*, 2020.

Refereed Conference Publications

[2] M. Usman Rafique, Hunter Blanton, Noah Snavely, and Nathan Jacobs. Generative appearance flow: A hybrid approach for outdoor view synthesis. In *British Machine Vision Conference (BMVC)*, 2020.

[3] Yu Zhang, Xiaoqin Wang, Hunter Blanton, Liang Gongbo, Xin Xing, and Nathan Jacobs. Convolutional neural networks for 3d digital breast tomosynthesis classification. In *IEEE International Conference on Bioinformatics and Biomedicine*, 2019.

[4] Gongbo Liang, Xiaoqin Wang, Yu Zhang, Xin Xing, Hunter Blanton, Tawfiq Salem, and Nathan Jacobs. Joint 2d-3d breast cancer classification. In *IEEE International Conference on Bioinformatics and Biomedicine*, 2019.

Refereed Workshop Publications

[5] Hunter Blanton, Connor Greenwell, Scott Workman, and Nathan Jacobs. Extending absolute pose regression to multiple scenese. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops*, 2020.

[6] Hunter Blanton, Sean Grate, and Nathan Jacobs. Surface modeling for airborne lidar. In *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2020.

[7] Armin Hadzic, Hunter Blanton, Weilian Song, Mei Chen, Scott Workman, and Nathan Jacobs. Rasternet: Modeling free-flow speed using lidar and overhead imagery. In *CVPR Workshop: Large Scale Computer Vision for Remote Sensing Imagery (EARTHVISION)*, 2020.

[8] Scott Workman, 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 (IGARSS)*, 2020.

[9] Xin Xing, Gongbo Liang, Hunter Blanton, M. Usman Rafique, Chris Wang, Ai-Ling Lin, and Nathan Jacobs. Dynamic image for 3d mri image alzheimer's disease classification. In *ECCV Workshop on BioImage Computing*, 2020.

[10] M. Usman Rafique, Hunter Blanton, and Nathan Jacobs. Weakly supervised fusion of multiple overhead images. In *CVPR Workshop: Large Scale Computer Vision for Remote Sensing Imagery (EARTHVISION)*, 2019.

[11] Tawfiq Salem, Connor Greenwell, Hunter Blanton, and Nathan Jacobs. Learning to map nearly anything. In *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2019.

[12] Weilian Song, Tawfiq Salem, Hunter Blanton, and Nathan Jacobs. Remote estimation of free-flow speeds. In *IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2019.

Under Review

[13] Hunter Blanton, Scott Workman, and Nathan Jacobs. A structure-aware method for direct pose estimation. In *arXiv preprint arXiv:2012.12360*, 2020.

Professional Service

- Reviewing for Journals:
  - IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) (2019)
  - IEEE Transactions on Image Processing (TIP) (2020)

- Reviewer for:
  - Conferences
    * British Machine Vision Conference (BMVC) (2020)
    * IEEE Conference on Computer Vision and Pattern Recognition (CVPR) (2019-)
    * IEEE International Conference on Computer Vision (ICCV) (2019)
    * IEEE Winter Conference on Applications of Computer Vision (WACV) (2020)

Teaching

Teaching Assistant

- *Discrete Mathematics*, CS 275, (F2016, S2017, S2017), University of Kentucky