David Lindell

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Education

Stanford University   Sept 2016 – Present
Ph.D. Electrical Engineering
Brigham Young University   Sept 2009 – Apr 2016
B.S. Electrical Engineering (4.00/4.00) *Summa Cum Laude*
M.S. Electrical Engineering

Research Experience

Ph.D. Candidate   Sept 2016 – Present
Stanford University
Advisor: Prof. Gordon Wetzstein
Area: Computational imaging, time-of-flight sensors, LIDAR systems
○ Machine learning for robust range estimation, sensor fusion,
   transient imaging, non-line-of-sight imaging

Research Assistant   May 2014 – Apr 2016
Brigham Young University
Advisor: Prof. David Long
Area: Radar image processing, geoscience, remote sensing
○ Arctic sea ice classification and soil moisture estimation

Publications

[1] **D. B. Lindell** and D. G. Long, "Multiyear Arctic sea ice classification using OSCAT and QuikSCAT," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 54, no. 1, pp. 167–175, Jan. 2016, ISSN: 0196-2892. DOI: 10.1109/TGRS.2015.2452215.

[2] **D. B. Lindell** and D. G. Long, "Multiyear Arctic ice classification using ASCAT and SSMIS," *Remote Sensing*, vol. 8, no. 4, p. 294, 2016, ISSN: 2072-4292. DOI: 10.3390/rs8040294. [Online]. Available: http://www.mdpi.com/2072-4292/8/4/294.

[3] **D. B. Lindell** and D. G. Long, "High-resolution soil moisture retrieval with ASCAT," *IEEE Geoscience and Remote Sensing Letters*, vol. 13, no. 7, pp. 972–976, Jul. 2016, ISSN: 1545-598X. DOI: 10.1109/LGRS.2016.2557321.

[4] M. O'Toole, F. Heide, **D. B. Lindell**, K. Zang, S. Diamond, G. Wetzstein, "Reconstructing transient images from single-photon sensors," in *Proc. CVPR*, 2017.

[5] M. O'Toole, **D. B. Lindell**, G. Wetzstein, "Confocal non-line-of-sight imaging based on the light cone transform," *Nature*, 2018.

[6] **D. B. Lindell**, M. O'Toole, G. Wetzstein, "Towards transient imaging at interactive rates with single-photon detectors," in *Proc. ICCP*, 2018.

[7] **D. B. Lindell**, M. O'Toole, G. Wetzstein, "Single-photon 3D imaging with deep sensor fusion," in *ACM Trans. Graph. (SIGGRAPH)*, 2018.

[8] F. Heide, M. O'Toole, **D. B. Lindell**, S. Diamond, K. Zang, G. Wetzstein, "Robust non-line-of-sight imaging with single photon detectors," 2018, In Submission.

Industry Experience

Intel Intelligent Systems Lab   June 2018 – September 2018
Intern
○ Research in machine learning and acoustic sensing with Vladlen Koltun.

Software For Hire   March 2016 – August 2016
Computer Vision Specialist

- Built a fast, multithreaded vision algorithm for a pharmaceutical tablet counter using open source libraries including **Boost**, **OpenCV**, and **Point Cloud Library**.

Rincon Research Corporation June 2016 – July 2016
Electrical Engineering Intern
- Developed a cloud-based digital video recording system to stream and record live video. Integrated live broadcast television demodulation capability using **GNU Radio** and Rincon Research Corporation signal processing hardware.

Graduate Coursework

- Machine Learning (CS-229), A. Ng   F2018
- Convex Optimization (EE-364A), S. Boyd   Sp2017
- Convolutional Neural Networks for Visual Recognition (CS-231N), F. Li   Sp2017
- Computational Imaging and Display (EE-367), G. Wetzstein   W2017
- Information Theory (EE 376), D. Tse   W2017
- The Fourier Transform and its Applications (EE-261), B. Osgood   F2016
- Linear Dynamical Systems (EE-263), R.N. Mahalati   F2016
- Detection and Estimation Theory (EE-672), M. Rice   W2016
- Continuous Phase Modulation (EE-682R), M. Rice   W2016
- Robotic Vision (EE-631), D.J. Lee   W2016
- Math of Signals and Systems (EE-671), B. Jeffs   F2015
- Stochastic Processes (EE-670), B. Mazzeo   F2015
- Medical Imaging & Image Reconstruction (EE-576), N. Bangerter   F2015
- Antennas and Propogation (EE-665), K. Warnick   W2015
- Microwave Remote Sensing (EE-568), D. Long   F2014