David Lindell

(507) 514 2491 • lindell@stanford.edu • davidlindell.com
davelindell • davelindell

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 3D Imaging, 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 Trans. Geosci. Remote Sens.*, 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 Geosci. Remote Sens. Lett.*, 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*, no. 555, pp. 338–341, 2018.

[6] F. Heide, S. Diamond, **D. B. Lindell**, G. Wetzstein, "Sub-picosecond photon-efficient 3D imaging using single-photon sensors," *Scientific Reports*, vol. 8, no. 17726, 2018.

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

[8] **D. B. Lindell**, M. O'Toole, G. Wetzstein, "Single-photon 3D imaging with deep sensor fusion," *ACM TOG (SIGGRAPH)*, no. 4, 37 2018.

[9] F. Heide, M. O'Toole, K. Zang, **D. B. Lindell**, S. Diamond, G. Wetzstein, "Non-line-of-sight imaging with partial occluders and surface normals," *ACM TOG*, Accepted.

[10] **D. B. Lindell**, G. Wetzstein, V. Koltun, "Acoustic non-line-of-sight imaging," in *Proc. CVPR*, (oral), 2019.

Industry Experience

Intel Intelligent Systems Lab June 2018 – September 2018
Intern
- Acoustic non-line-of-sight imaging with Vladlen Koltun.

Software For Hire March 2016 – August 2016
Computer Vision Specialist
- Built a real-time, 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 proprietary 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

Honors & Awards

- Stanford Graduate Research Fellowship 2016 – 2019
- Tau Beta Pi Honor Society Inducted 2013
- BYU Office of Research & Creative Activities Grant Winner 2015
- BYU Heritage Scholarship 2012 – 2015
- Tau Beta Pi Scholarship 2014