

Daeyun Shin

Curriculum Vitae

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Research Interests

My research interests are in artificial intelligence at the intersection of computer vision and graphics. I am interested in 3D scene understanding and representation learning. I am advised by Prof. Charles Fowlkes.

Education

Sept 2017 – present **Ph.D.** in Computer Science, University of California, Irvine
Aug 2015 – Aug 2017 **M.S.** in Computer Science, University of Illinois at Urbana-Champaign
Aug 2011 – May 2015 **B.S.** in Computer Science, University of Illinois at Urbana-Champaign

Publications

- [1] Y. Zhao, S. Kong, **D. Shin**, and C. Fowlkes, “Domain Decluttering: Simplifying Images to Mitigate Synthetic-Real Domain Shift and Improve Depth Estimation,” in *Proc. of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020, pp. 3330–3340.
- [2] **D. Shin**, Z. Ren, E. Sudderth, and C. Fowlkes, “3D Scene Reconstruction with Multi-layer Depth and Epipolar Transformers,” in *Proc. of the IEEE International Conference on Computer Vision (ICCV)*, 2019, pp. 2172–2182.
- [3] **D. Shin**, C. Fowlkes, and D. Hoiem, “Pixels, voxels, and views: A study of shape representations for single view 3D object shape prediction,” in *Proc. of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018, pp. 3061–3069.
- [4] Z. Wang, **D. Shin**, and C. Fowlkes, “Predicting Camera Viewpoint Improves Cross-dataset Generalization for 3D Human Pose Estimation,” in *Proc. of the ECCV Workshops (ECCVW) - 3DPW*, 2020, pp. 523–540.
- [5] J. Rock, T. Gupta, J. Thorsen, J. Gwak, **D. Shin**, and D. Hoiem, “Completing 3D Object Shape from One Depth Image,” in *Proc. of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2015, pp. 2484–2493.

Manuscripts

- [1] Z. Wang, L. Chen, S. Rathore, **D. Shin**, and C. Fowlkes, “Geometric Pose Affordance: 3D Human Pose with Scene Constraints,” Tech. Rep., arXiv:1905.07718 [cs.CV], 2019.
- [2] T. Gupta, **D. Shin**, N. Sivagnanadasan, and D. Hoiem, “3DFS: Deformable Dense Depth Fusion and Segmentation for Object Reconstruction from a Handheld Camera,” Tech. Rep., arXiv:1606.05002 [cs.CV], 2016.

Internships

June 2019 – Sept 2019 **Snap Inc.**, Research Intern | Santa Monica, CA
– 3D vision research project.

May 2016 – Aug 2016 **Google Inc.**, Software Engineering Intern | New York, NY
– Worked on a graphics/vision project registering handwritten strokes to images for Jamboard.

May 2015 – Aug 2015 **Google Inc.**, Software Engineering Intern | Pittsburgh, PA
– Display/Video Ads team.

May 2014 – Aug 2014 **Amazon Web Services**, Software Engineering Intern | Palo Alto, CA
– Software development with WorkDocs team.

May 2013 – Aug 2013 **Amazon.com**, Software Engineering Intern | Seattle, WA
– Worked on face detection for video-based surveillance software in a computer vision team.

Academic Employment

- Since Mar 2018 **Research Assistant**, CS Department | Irvine, CA
– 3D vision research with Prof. Charless Fowlkes.
- Sept 2017 – Mar 2018 **Teaching Assistant**, CS Department | Irvine, CA
– Design and Analysis of Algorithms (CS 161), Computational Photography (CS 116)
- Aug 2016 – Aug 2017 **Research Assistant**, CS Department | Urbana, IL
– 3D vision research with Prof. Derek Hoiem.
- Aug 2015 – May 2016 **Teaching Assistant**, CS Department | Urbana, IL
– Computational Photography (CS 445), Applied Machine Learning (CS 498 DF)
- Aug 2013 – May 2014 **Course Assistant**, Undergraduate, CS Department | Urbana, IL
– CS 242 (Programming Studio), CS 473 (Fundamental Algorithms, Grader), CS 241 (System Programming), ENG 100 (Engineering Orientation).

Workshop Presentations

- Jun 2019 The 2019 Scene Understanding and Modeling (SUMO) Challenge Workshop at CVPR: Multi-layer depth and epipolar feature transformers for 3d scene reconstruction
- Jun 2019 3D Scene Understanding for Vision, Graphics, and Robotics: Multi-layer and Virtual-view 3D Scene Reconstruction from a Single Image – Poster only
- Jun 2018 Vision Meets Cognition Workshop at CVPR: Pixels, voxels, and views: A study of shape representations for single view 3D object shape prediction

Talks

- Sept 2019 Berkeley Artificial Intelligence Research (BAIR) Lab, 3D Scene Reconstruction with Multi-layer Depth and Epipolar Transformers. CA, USA.
- Sept 2019 Stanford Vision and Learning Lab (SVL) Group Meeting, 3D Scene Reconstruction with Multi-layer Depth and Epipolar Transformers. CA, USA.
- Oct 2019 Scalable Graphics, Vision, & Robotics (SGVR) Lab, 3D Scene Reconstruction with Multi-layer Depth and Epipolar Transformers. KAIST, Daejeon, Korea.
- Apr 2019 UCI AI/ML Seminar Series, Multi-layer Depth and Epipolar Feature Transformers for 3D Scene Reconstruction. CA, USA.

Professional Services

- Since 2018 **Conference Reviewer**, CVPR 2021, ICLR 2021, NeurIPS 2020, ECCV 2020, CVPR 2020, ICLR 2020, AAAI 2020, ICCV 2019, CVPR 2019, ACCV 2020, WACV 2021, WACV 2020, BMVC 2019, ACCV 2018, WACV 2019
- Journal Reviewer**, T-PAMI, IEEE Access

Activities

- Jun 2016 **TensorFlow**, Implemented conv3d_transpose python op in tensorflow:master, [\[GitHub\]](#)
- Aug 2013 **ACM-ICPC**, Represented UIUC in Mid-Central USA
- Jun 2012 – Jul 2012 **Lu Lab**, Research application development in C++, <http://lulab.bioen.illinois.edu/>
- May 2012 – Aug 2012 **Institute for Genomic Biology**, Urbana, IL, Employed part-time to develop agricultural database migration and visualization software.