

Angela Dai | Curriculum Vitae

Boltzmanstrasse 3, Department of Informatics, Garching, 85748 – Germany

✉ angela.dai@tum.de • 🌐 <https://angeladai.github.io/>

Education

- **Stanford University** **Sept. 2018**
PhD in Computer Science, Advisor: Pat Hanrahan *Stanford, CA, USA*
- **Stanford University** **Sept. 2017**
MS in Computer Science *Stanford, CA, USA*
- **Princeton University** **June 2013**
BSE in Computer Science, Magna Cum Laude *Princeton, NJ, USA*

Research and Industry Experience

- **Junior Research Group Leader** **Technical University of Munich**
ZD.B Junior Research Group, Munich, Germany *03/2019-*
1.25 million€/ 5 years to supervise PhD students. Host: Rüdiger Westermann.
- **Postdoctoral Fellow** **Technical University of Munich**
TUM Foundation Fellowship, Munich, Germany *10/2018-02/2019*
Host: Rüdiger Westermann.
- **Intern** **Google**
Google Tango, Daydream, Munich, Germany *09/2017-12/2017*
Large-scale scene completion for 3D scans (Mentor: Jürgen Sturm).
- **Resarch Intern** **Adobe Systems**
Creative Technologies Lab, San Francisco, CA *06/2013-08/2013*
Automatic synthesis of hidden transitions in interview video (Mentor: Wilmot Li).
- **Intern** **PDI/DreamWorks**
Redwood City, CA *06/2012-08/2012*
Exemplar-based texture synthesis (Mentor: Feng Xie).
- **Resarch Intern** **National Security Agency**
Director's Summer Program, Fort Meade, MD *05/2011-08/2011*
Signals and image classification using sparse image processing.
- **Resarch Intern** **IPAM, UCLA**
Research in Industrial Projects for Students, Los Angeles, CA *06/2010-08/2010*
Coded aperture lensless imaging.

Teaching Experience

- Instructor 3D Scanning and Motion Capture (Technical University of Munich, Summer 2019).
- Instructor 3D Scanning and Motion Capture (Technical University of Munich, Winter 2018).
- Teaching Assistant Introduction to computer graphics (Stanford University, Summer 2015).
- Teaching Assistant Introduction to computer graphics (Stanford University, Summer 2014).

Awards and Distinctions

- 2019 Honorable Mention; ACM SIGGRAPH Outstanding Doctoral Dissertation Award.

- 2019- ZDB Junior Research Group Award. *1.25 million€/ 5 years to supervise PhD students.*
- Oct. 2018 Rising Stars in EECS. *Awarded to 76 EECS graduate and postdoctoral women.*
- Sept. 2018 Heidelberg Laureate Forum. *Awarded to 200 young math and computer science researchers.*
- 2018-2019 Technical University of Munich Foundation Fellowship.
- 2013-2018 Stanford Graduate Fellowship, Professor Michael J. Flynn Fellow.
- June 2013 Program in Applied and Computational Mathematics Certificate Prize, Princeton University. *Awarded annually to 2 senior undergraduates studying applied and computational mathematics.*
- June 2013 Phi Beta Kappa, Academic Honor Society.
- June 2013 Tau Beta Pi, Academic Honor Society.
- 2012 Google Anita Borg Memorial Scholar.
- Dec. 2011 Facebook College Hackathon Finals, 1st place.
- 2009-2010 Shapiro Prize for Academic Excellence, Princeton University.
- 2010 Honorable Mention; Mathematical Contest in Modeling.

Professional Activities

- Workshop Organizer ScanNet Indoor Scene Understanding, CVPR 2019.
- Program Committee Technical Briefs and Posters program, SIGGRAPH Asia 2019.
- COI Conflict of Interest Coordinator, SIGGRAPH 2019.
- Workshop Organizer Robust Vision Challenge, CVPR 2018.
- Reviewer For major conferences and journals (CVPR, ICCV, TPAMI, Siggraph, Siggraph Asia, etc.).

Invited Talks

- 06/2019 *UC Berkeley: Understanding 3D Scans (Host: Angjoo Kanazawa).*
- 03/2019 *Carnegie Mellon University: Understanding 3D Scans (Host: Matthew O'Toole).*
- 03/2019 *ETH Zurich: Understanding 3D Scans (Host: Marc Pollefeys).*
- 03/2019 *University of Zurich: Understanding 3D Scans (Host: Michael Böhlen).*
- 02/2019 *Cornell University: Understanding 3D Scans (Host: Steve Marschner).*
- 10/2018 *Cornell University: Learning to Complete 3D Scans (Host: Bharath Hariharan).*
- 10/2018 *Harvard University: Learning to Complete 3D Scans (Host: Hanspeter Pfister).*
- 10/2018 *Massachusetts Institute of Technology: Learning to Complete 3D Scans (Host: Justin Solomon).*
- 07/2018 *Technical University of Munich Institute for Advanced Study Workshop on Machine Learning for 3D Understanding: Learning to Complete 3D Scans (Host: Michael Bronstein).*
- 05/2018 *DeepMind: Large-Scale Completion and Understanding of 3D Scans (Host: Pushmeet Kohli).*
- 05/2018 *Imperial College London: Large-Scale Completion and Understanding of 3D Scans (Host: Andrew Davison).*
- 01/2018 *Silicon Valley ACM SIGGRAPH Chapter: Learning to Reconstruct and Understand 3D Environments (Host: Ken Turkowski).*
- 11/2017 *Max Planck Institute for Informatics: Learning to Reconstruct 3D Environments (Host: Christian Theobalt).*
- 07/2017 *Shandong University Summer School: Learning to Reconstruct and Understand 3D Environments (Host: Baoquan Chen).*
- 08/2016 *University of Washington: Real-time 3D Reconstruction (Host: Konstantinos Rematas and Brian Curless).*
- 08/2016 *Microsoft Research: Interactive Reconstruction of 3D Scenes (Host: Pushmeet Kohli).*
- 05/2016 *Matterport: From Reconstruction to Understanding of Indoor Environments (Host: Craig Reynolds).*

References

- **Pat Hanrahan**
◦ *Stanford University*
hanrahan@cs.stanford.edu
+1 (650) 723-8530
353 Serra Mall
Stanford, CA, 94305
- **Thomas Funkhouser**
◦ *Princeton University*
funk@cs.princeton.edu
+1 (609) 258-1748
35 Olden Street
Princeton, NJ 08544
- **Leonidas Guibas**
◦ *Stanford University*
guibas@cs.stanford.edu
+1 (650) 723-0304
353 Serra Mall
Stanford, CA, 94305
- **Silvio Savarese**
◦ *Stanford University*
ssilvio@stanford.edu
353 Serra Mall
Stanford, CA, 94305

Selected Press Coverage

- ScanNet, *MIT Technology Review*, April 2017. <https://www.technologyreview.com/s/604240/a-massive-new-library-of-3-d-images-could-help-your-robot-butler-get-around-your-house>
- ScanNet, *Computer Vision News*, August 2017. <http://www.rsipvision.com/ComputerVisionNews-2017August>
- ScanNet, *Next Reality*, May 2017. <https://hololens.reality.news/news/better-spatial-maps-will-make-mixed-reality-great-0176321>
- ScanNet, *Communications of the ACM*, April 2017. <https://cacm.acm.org/news/216399-a-massive-new-library-of-3d-images-could-help-your-robot-butler-get-around-your-house/fulltext>

Publications

- A. Dai** and M. Nießner. Scan2mesh: From unstructured range scans to 3d meshes. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2019.
- H. Ji, **A. Dai**, and M. Nießner. 3d-sic: 3d semantic instance completion for rgb-d scans. In *arXiv preprint arXiv:1904.12012*, 2019.
- J. Hou, **A. Dai**, and M. Nießner. 3d-sis: 3d semantic instance segmentation of rgb-d scans. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2019.
- A. Avetisyan, M. Dahnert, **A. Dai**, M. Savva, A. X. Chang, and M. Nießner. Scan2cad: Learning cad model alignment in rgb-d scans. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2019.
- A. Armen, **A. Dai**, and M. Nießner. End-to-end cad model retrieval and 9dof alignment in 3d scans. In *arXiv preprint arXiv:1906.04201*, 2019.
- A. Dai**, D. Ritchie, M. Bokeloh, S. Reed, J. Sturm, and M. Nießner. Scancomplete: Large-scale scene completion and semantic segmentation for 3d scans. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2018.
- A. Dai** and M. Nießner. 3dmv: Joint 3d-multi-view prediction for 3d semantic scene segmentation. In *Proceedings of the European Conference on Computer Vision (ECCV)*, 2018.
- A. Dai**, C. R. Qi, and M. Nießner. Shape completion using 3d-encoder-predictor cnns and shape synthesis. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2017.
- A. Dai**, M. Nießner, M. Zollhöfer, S. Izadi, and C. Theobalt. Bundlefusion: Real-time globally consistent 3d reconstruction using on-the-fly surface re-integration. *ACM Transactions on Graphics 2017 (TOG)*, 2017.
- A. Dai**, A. X. Chang, M. Savva, M. Halber, T. Funkhouser, and M. Nießner. Scannet: Richly-annotated 3d reconstructions of indoor scenes. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2017.
- J. Huang, **A. Dai**, L. Guibas, and M. Nießner. 3dlite: Towards commodity 3d scanning for content creation. *ACM Transactions on Graphics 2017 (TOG)*, 2017.
- A. Chang, **A. Dai**, T. Funkhouser, M. Halber, M. Niessner, M. Savva, S. Song, A. Zeng, and Y. Zhang. Matterport3D: Learning from RGB-D data in indoor environments. *International Conference on 3D Vision (3DV)*, 2017.

- J. Valentin, **A. Dai**, M. Nießner, P. Kohli, P. Torr, S. Izadi, and C. Keskin. Learning to navigate the energy landscape. In *International Conference on 3D Vision (3DV)*, 2016.
- C. R. Qi, H. Su, M. Nießner, **A. Dai**, M. Yan, and L. Guibas. Volumetric and multi-view cnns for object classification on 3d data. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2016.
- M. Zollhöfer, **A. Dai**, M. Innmann, C. Wu, M. Stamminger, C. Theobalt, and M. Nießner. Shading-based refinement on volumetric signed distance functions. *ACM Transactions on Graphics (TOG)*, 2015.
- Y. Li, **A. Dai**, L. Guibas, and M. Nießner. Database-assisted object retrieval for real-time 3d reconstruction. In *Computer Graphics Forum*. Wiley Online Library, 2015.
- M. Nießner, **A. Dai**, and M. Fisher. Combining inertial navigation and icp for real-time 3d surface reconstruction. In *Eurographics 2014 Short Papers*. The Eurographics Association, 2014.