# Angela Dai | Curriculum Vitae

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### **Current Position**

o Technical University of Munich, Associate Professor

o Technical University of Munich, Assistant Professor

### Education

- Stanford University
- PhD in Computer Science, Advisor: Pat Hanrahan
- **Stanford University** MS in Computer Science
- **Princeton University** BSE in Computer Science, Magna Cum Laude

### **Research and Industry Experience**

Junior Research Group Leader ZD.B Junior Research Group, Munich, Germany 1.25 million€/ 5 years to supervise PhD students. Host: Rüdiger Westermann. **Postdoctoral Fellow** TUM Foundation Fellowship, Munich, Germany Host: Rüdiger Westermann. Intern Google Tango, Daydream, Munich, Germany Large-scale scene completion for 3D scans (Mentor: Jürgen Sturm). **Resarch Intern** 

Creative Technologies Lab, San Francisco, CA Automatic synthesis of hidden transitions in interview video (Mentor: Wilmot Li).

### Awards and Distinctions

- o 2024 ECVA Young Researcher Award.
- o 2024 German Pattern Recognition Award.
- o 2024 MIT Prize for Open Data, DrivAerNet++.
- o 2023-ERC Starting Grant. 1.5 million€/ 5 years.
- o 2022 Eurographics Young Researcher Award.
- o 2022-Eurographics Junior Fellow.
- o 2022 Google Research Scholar Award.
- o 2021 Top 40 under 40, Capital Magazine.
- o 2020 SGP Dataset Award, ScanNet.
- Honorable Mention; ACM SIGGRAPH Outstanding Doctoral Dissertation Award. o 2019
- ZDB Junior Research Group Award. 1.25 million€/ 5 years to supervise PhD students. o 2019-
- Rising Stars in EECS. Awarded to 76 EECS graduate and postdoctoral women. o Oct. 2018
- o Sept. 2018 Heidelberg Laureate Forum. Awarded to 200 young math and computer science researchers.

2024 - present 2020 - 2024

Stanford, CA, USA

Stanford, CA, USA

Princeton, NJ, USA

Sept. 2018

Sept. 2017

June 2013

**Technical University of Munich** 03/2019-

**Technical University of Munich** 10/2018-02/2019

> Google 09/2017-12/2017

> **Adobe Systems** 06/2013-08/2013

o 2018-2019	Technical University of Munich Foundation Fellowship.
o 2013-2018	Stanford Graduate Fellowship, Professor Michael J. Flynn Fellow.
o June 2013	Program in Applied and Computational Mathematics Certificate Prize, Princeton University. Awarded annually to 2 senior undergraduates studying applied and computational mathematics.
o June 2013	Phi Beta Kappa, Academic Honor Society.
o June 2013	Tau Beta Pi, Academic Honor Society.
o 2012	Google Anita Borg Memorial Scholar.
o Dec. 2011	Facebook College Hackathon Finals, 1 <sup>St</sup> place.
o 2009-2010	Shapiro Prize for Academic Excellence, Princeton University.
o 2010	Honorable Mention; Mathematical Contest in Modeling.

## Teaching

<ul> <li>Instructor</li> </ul>	Machine Learning for 3D Geometry (Technical University of Munich, 2021 - 2025).
<ul> <li>Instructor</li> </ul>	Deep Learning for 3D Perception Practical (Technical University of Munich, 2022 - 2025).
<ul> <li>Instructor</li> </ul>	3D Machine Learning Seminar (Technical University of Munich, 2021 - 2025).
<ul> <li>Instructor</li> </ul>	Robot Perception and Decision-Making Seminar (Technical University of Munich, 2024 - 2025).
<ul> <li>Instructor</li> </ul>	Introduction to Deep Learning (Technical University of Munich, 2019, 2022).
<ul> <li>Instructor</li> </ul>	Geometric Modeling and Visualization (Technical University of Munich, 2022).
<ul> <li>Instructor</li> </ul>	3D Scanning and Motion Capture (Technical University of Munich, 2018 - 2021).
<ul> <li>Teaching Assistant</li> </ul>	Introduction to Computer Graphics (Stanford University, 2014, 2015).

### **Professional Activities**

• Papers Chai	ir	Eurographics 2025.
• Program Ch	nair	3DV 2022.
• Area Chair		CVPR 2025, ECCV 2024, CVPR 2022, CVPR 2021.
• Program Co	ommittee	SIGGRAPH 2024, SIGGRAPH 2022, SIGGRAPH 2021, GCPR 2020, Eurographics 2020.
• Awards Con	nmittee	ICCV 2023, SGP 2022.
• Appointmer	nts Comm.	MCML Junior Research Groups, 2023.
• Tutorials Ch	nair	International Conference on 3D Vision 2021.
• Co-Organize	er	3D Geometry and Vision Seminar (Virtual Seminar Series).
• Co-Editor		IEEE TPAMI special issue on Generative AI in 3D Vision, 2024.
• Co-Editor		International Journal of Computer Vision special issue on Performance Evaluation, 2020.
o COI		Conflict of Interest Coordinator, SIGGRAPH 2019.
• Workshop C	Organizer	ScanNet++ Novel View Synthesis and 3D Semantic Understanding Challenge, CVPR 2024.
• Workshop C	Organizer	Towards 3D Foundation Models: Progress and Prospects, CVPR 2024.
• Workshop C	Organizer	XRNeRF: 2nd Workshop on Advances in Radiance Fields for the Metaverse, CVPR 2024.
• Workshop C	Organizer	Computer Vision for Metaverse, ICCV 2023.
• Workshop C	Organizer	ScanNet Indoor Scene Understanding Challenge, CVPR 2019, CVPR 2020, CVPR 2021, CVPR 2022, CVPR 2023.
• Workshop C	Organizer	Computer Vision for Metaverse, ECCV 2022.
• Workshop C	Organizer	Robust Vision Challenge, CVPR 2018, ECCV 2020, ECCV 2022.
• Workshop C	Organizer	Deep Learning for Visual SLAM, ICCV 2019.
o Reviewer		For major conferences and journals (CVPR, ICCV, TPAMI, Siggraph, Siggraph Asia, etc.).

### Invited Talks (last three years)

0	10/2024	<i>Geometry in Large Model Era, ECCV'24 Workshop</i> : Generating 3D Geometry with Limited Data (Host: Leonidas Guibas).
0	07/2024	<i>Summer School on Signal Processing</i> : Learning to Understand the 3D World (Host: Luisa Verdoliva).
0	07/2024	<i>Semantics for Robotics, RSS'24 Workshop</i> : From Quantity to Quality for 3D Understanding (Host: Angela Schoellig).
0	07/2024	<i>Open-Set Robotics, RSS'24 Workshop</i> : From Quantity to Quality for 3D Understanding (Host: Marcus Mueller).
0	06/2024	Social presence with Codec Avatars, CVPR'24 Workshop: Human-Centric 3D Scenes (Host: Javier Romero).
0	06/2024	<i>3D Foundation Models: Progress and Prospects, CVPR'24 Workshop</i> : From Quantity to Quality for 3D Understanding (Host: Sai Bi).
0	06/2024	<i>Compositional 3D Vision, CVPR'24 Workshop</i> : From Understanding to Interacting with the 3D World (Host: Habib Slim).
0	06/2024	<i>Reconstruction of Human-Object Interactions, CVPR'24 Workshop</i> : Human-Centric 3D Scenes (Host: Xi Wang).
0	06/2024	<i>Carnegie Mellon University</i> : From Understanding to Interacting with the 3D World (Host: Shubham Tulsiani).
0	06/2024	University of Pennsylvania: From Understanding to Interacting with the 3D World (Host: Lingjie Liu).
0	05/2024	<i>Neural Fields in Robotics, ICRA'24 Workshop</i> : Learning & Optimization of Neural Fields for 3D Perception (Host: Zubair Irshad).
0	05/2024	Computer Science for High School Girls at TU Munich: Introduction to Computer Graphics and Vision.
0	04/2024	Meta Zurich: From Understanding to Interacting with the 3D World (Host: Peter Kontschieder).
0	04/2024	<i>Google Zurich</i> : From Understanding to Interacting with the 3D World (Host: Federico Tombari, Francis Engelmann).
0	10/2023	Scenes from Video Workshop: Learning & Optimization for 3D Generative Models (Host: Anton van den Hengel, Michael Black).
0	10/2023	<i>Open-Vocabulary 3D Scene Understanding, ICCV'23 Workshop</i> : 3D Perception with Limited 3D (Host: Francis Engelmann).
0	10/2023	Frontiers of Monocular 3D Perception, ICCV'23 Workshop: Object-Based 3D Perception (Host: Vitor Guizilini).
0	10/2023	<i>Computer Vision for Metaverse, ICCV'23 Workshop</i> : Learning & Optimization for 3D Generative Models (Host: Bichen Wu).
0	09/2023	<i>Keynote</i> , <i>3D Object Retrieval</i> : Learning from Synthetic 3D Priors for Real-World 3D Perception (Host: Silvia Biasotti).
0	08/2023	<i>UIUC Vision Seminar</i> : Navigating the Optimization-Learning Spectrum in 3D Generative Models (Host: David Forsyth).
0	07/2023	<b>Keynote</b> , Shape Modeling International '23: Learning & Optimization for 3D Generative Models (Host: Giuseppe Patane).
0	07/2023	3D Generative Models, Banff International Research Station for Mathematical Innovation and Discovery Workshop: Learning & Optimization for 3D Generative Models (Host: Andrea Tagliasacchi).
0	06/2023	Al for Content Creation, CVPR'23 Workshop: Learning & Optimization for 3D Generative Models (Host: Yijun Li).
0	06/2023	4th 3D Scene Understanding for Vision, Graphics and Robotics Workshop, CVPR'23 Workshop: Structured Parametric Models for 3D Perception (Host: Siyuan Huang).
0	06/2023	<i>Generative Models for Computer Vision, CVPR'23 Workshop</i> : Learning & Optimization for 3D Generative Models (Host: Adam Kortylewski).
0	06/2023	<i>Structural and Compositional Learning on 3D Data, CVPR'23 Workshop</i> : Structured Parametric Models for 3D Perception (Host: Kaichun Mo).
0	06/2023	<i>Stanford University</i> : Navigating the Optimization-Learning Spectrum in 3D Generative Models (Host: Leonidas Guibas).

0	06/2023	<i>Google</i> : Navigating the Optimization-Learning Spectrum in 3D Generative Models (Host: Thomas Funkhouser).
0	06/2023	Cruise: Object-Centric 3D Perception (Host: Kyle Zheng).
0	02/2023	Adobe Research: Learned Parametric Models for 3D Perception (Host: Valentin Deschaintre).
0	11/2022	University of Cambridge: Object-Centric 3D Perception (Host: Roberto Cipolla).
0	11/2022	University of Surrey: Object-Centric 3D Perception (Yulia Gryaditskaya).
0	11/2022	Imperial College London: Object-Centric 3D Perception (Host: Andrew Davison).
0	10/2022	<i>Computer Vision for Metaverse, ECCV'22 Workshop</i> : Learned Parametric Models for 3D Perception (Host: Xiaoliang Dai).
0	08/2022	Mathematical Imaging and Surface Processing, Oberwolfach Workshop: Neural Parametric 3D Models for Real-World Spatial Perception
0	08/2022	<i>Rank Symposium on Neural Rendering in Computer Vision</i> : Learning 3D Priors for Real-World Spatial Perception (Host: Julien Valentin)
0	07/2022	Keynote, Al Symposium, Bavarian Academy of Sciences: Al for Perceiving 3D Environments
0	07/2022	<i>Keynote</i> , <i>Symposium on Geometry Processing 2022</i> : Towards Structured Geometric Understanding for 3D Perception.
0	07/2022	<i>Symposium on Geometry Processing 2022 Tutorial</i> : Learning to Understand 3D from Large-Scale Indoor Scene Data.
0	06/2022	6th Workshop on Computer Vision for AR/VR, CVPR'22 Workshop: Towards Commodity 3D Content Creation (Host: Sofien Bouaziz).
0	06/2022	<i>Women in Computer Vision, CVPR'22 Workshop</i> : A Structured Geometric Perspective on Real-world 3D Perception (Host: Silvia Bucci).
0	06/2022	<i>3rd SHApe Recovery from Partial textured 3D scans (SHARP), CVPR'22 Workshop</i> : Towards Commodity 3D Content Creation (Host: Djamila Aouada).
0	06/2022	2nd Workshop and Challenge on Computer Vision in the Built Environment, CVPR'22 Workshop: Learning from Synthetic 3D Priors for Real-World 3D Perception (Host: Iro Armeni).
0	06/2022	<i>Stanford University</i> : Learning from Synthetic 3D Priors for Real-World 3D Perception (Host: Jiajun Wu).
0	05/2022	<i>Keynote</i> , <i>Pioneer Centre for AI, Copenhagen</i> : Learning from Synthetic 3D Priors for Real-World 3D Perception (Host: Dimitrios Papadopoulos).
0	05/2022	<i>University of Toronto</i> : Learning from Synthetic 3D Priors for Real-World 3D Perception (Host: Animesh Garg).

#### Selected Press Coverage

- DrivAerNet++, *MIT News*, December 2024, https://news.mit.edu/2024/design-future-car-with-8000-design-options-1205
- DrivAerNet++, TUM News, December 2024, https://www.tum.de/en/news-and-events/all-news/press-releases/details/more-efficient-car-designs-with-ai
- 120+ Women Spearheading Advances in Visual Tech and AI, LDV, May 2024. https://www.ldv.co/blog/women-spearheading-advances-in-visual-tech-and-ai
- Kluge Köpfe müssen bleiben, ZDF, January 2023. https://www.zdf.de/nachrichten/heute-in-deutschland/klugekoepfe-muessen-bleiben-100.html
- Angela Dai, Women in Computer Vision, Computer Vision News, October 2022. https://www.rsipvision.com/ECCV2022-Wednesday/14/
- Angela Dai receives Eurographics Young Researcher Award, *WiGRAPH*, October 2022. https://www.wigraph.org/spotlights/angela-dai-receives-eurographics-young-researcher-award/
- o ScanNet Challenge, Computer Vision News, June 2020. https://www.rsipvision.com/CVPR2020-Wednesday/18/
- ScanNet, *MIT Technology Review*, April 2017. https://www.technologyreview.com/s/604240/a-massive-new-libraryof-3-d-images-could-help-your-robot-butler-get-around-your-house
- o 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-realitygreat-0176321

 ScanNet, Communications of the ACM, April 2017. https://cacm.acm.org/news/216399-a-massive-new-library-of-3dimages-could-help-your-robot-butler-get-around-your-house/fulltext

#### **Publications**

I. Taouil, L. Amatucci, M. Khadiv, **A. Dai**, V. Barasuol, G. Turrisi, and C. Semini. Non-gaited legged locomotion with monte-carlo tree search and supervised learning. *IEEE Robotics and Automation Letters*, 2024.

J. Tang, A. Dai, Y. Nie, L. Markhasin, J. Thies, and M. Nießner. Dphms: Diffusion parametric head models for depth-based tracking. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2024.

J. Tang, Y. Nie, L. Markhasin, **A. Dai**, J. Thies, and M. Nießner. Diffuscene: Denoising diffusion model for generative indoor scene synthesis. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2024.

Y. Siddiqui, A. Alliegro, A. Artemov, T. Tommasi, D. Sirigatti, V. Rosov, **A. Dai**, and M. Nießner. Meshgpt: Generating triangle meshes with decoder-only transformers. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2024.

D. Rozenberszki, O. Litany, and **A. Dai**. Unscene3d: Unsupervised 3d instance segmentation for indoor scenes. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2024.

B. Roessle, N. Müller, L. Porzi, S. R. Bulò, P. Kontschieder, **A. Dai**, and M. Nießner. L3dg: Latent 3d gaussian diffusion. In *SIGGRAPH Asia 2024 Conference Papers*, December 2024.

L. Li and A. Dai. Genzi: Zero-shot 3d human-scene interaction generation. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2024.

D. Gao, D. Rozenberszki, S. Leutenegger, and **A. Dai**. Diffcad: Weakly-supervised probabilistic cad model retrieval and alignment from an rgb image. *ACM Transactions on Graphics 2024 (TOG)*, 2024.

M. Elrefaie, F. Morar, **A. Dai**, and F. Ahmed. Drivaernet++: A large-scale multimodal car dataset with computational fluid dynamics simulations and deep learning benchmarks. In *Thirty-eigth Conference on Neural Information Processing Systems Datasets and Benchmarks Track*, 2024.

C. Diller and A. Dai. Cg-hoi: Contact-guided 3d human-object interaction generation. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2024.

C. Diller, T. Funkhouser, and **A. Dai**. Futurehuman3d: Forecasting complex long-term 3d human behavior from video observations. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2024.

M. Dahnert, A. Dai, N. Müller, and M. Nießner. Coherent 3d scene diffusion from a single rgb image. *Proc. Neural Information Processing Systems (NeurIPS)*, 2024.

A.-Q. Cao, **A. Dai**, and R. de Charette. Pasco: Urban 3d panoptic scene completion with uncertainty awareness. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2024.

T. Beyer and A. Dai. End-to-end piano performance-midi to score conversion with transformers. In ISMIR, 2024.

S. Aneja, J. Thies, **A. Dai**, and M. Nießner. Facetalk: Audio-driven motion diffusion for neural parametric head models. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2024.

C. Yeshwanth, Y.-C. Liu, M. Nießner, and **A. Dai**. Scannet++: A high-fidelity dataset of 3d indoor scenes. In *Proceedings* of the International Conference on Computer Vision (ICCV), 2023.

Y. Siddiqui, L. Porzi, S. R. Buló, N. Müller, M. Nießner, **A. Dai**, and P. Kontschieder. Panoptic lifting for 3d scene understanding with neural fields. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2023.

Y. Nie, A. Dai, X. Han, and M. Nießner. Learning 3d scene priors with 2d supervision. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2023.

J. Hou, X. Dai, Z. He, **A. Dai**, and M. Nießner. Mask3d: Pre-training 2d vision transformers by learning masked 3d priors. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2023.

C. Gümeli, **A. Dai**, and M. Nießner. Objectmatch: Robust registration using canonical object correspondences. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2023.

Z. Erkoç, F. Ma, Q. Shan, M. Nießner, and **A. Dai**. Hyperdiffusion: Generating implicit neural fields with weight-space diffusion. In *Proceedings of the International Conference on Computer Vision (ICCV)*, 2023.

A. Bokhovkin, S. Tulsiani, and **A. Dai**. Mesh2tex: Generating mesh textures from image queries. In *Proceedings of the International Conference on Computer Vision (ICCV)*, 2023.

A. Bokhovkin and **A. Dai**. Neural part priors: Learning to optimize part-based object completion in rgb-d scans. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2023.

S. Aneja, J. Thies, **A. Dai**, and M. Nießner. Clipface: Text-guided editing of textured 3d morphable models. In *SIGGRAPH '23 Conference Proceedings*, 2023.

Y. Siddiqui, J. Thies, F. Ma, Q. Shan, M. Nießner, and **A. Dai**. Texturify: Generating textures on 3d shape surfaces. In *Proceedings of the European Conference on Computer Vision (ECCV)*, 2022.

D. Rozenberszki, O. Litany, and **A. Dai**. Language-grounded indoor 3d semantic segmentation in the wild. In *Proceedings* of the European Conference on Computer Vision (ECCV), 2022.

Y. Rao, Y. Nie, and **A. Dai**. Patchcomplete: Learning multi-resolution patch priors for 3d shape completion on unseen categories. In *Advances in Neural Information Processing Systems*, 2022.

P. Palafox, N. Sarafianos, T. Tung, and **A. Dai**. Spams: Structured implicit parametric models. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2022.

Y. Nie, A. Dai, X. Han, and M. Nießner. Pose2room: Understanding 3d scenes from human activities. In Proceedings of the European Conference on Computer Vision (ECCV), 2022.

C. Gümeli, **A. Dai**, and M. Nießner. Roca: Robust cad model retrieval and alignment from a single image. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2022.

C. Diller, T. Funkhouser, and A. Dai. Forecasting characteristic 3d poses of human actions. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2022.

Y. Chen, M. Nießner, and A. Dai. 4dcontrast: Contrastive learning with dynamic correspondences for 3d scene understanding. In *Proceedings of the European Conference on Computer Vision (ECCV)*, 2022.

**A. Dai**, Y. Siddiqui, J. Thies, J. Valentin, and M. Nießner. Spsg: Self-supervised photometric scene generation from rgb-d scans. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2021.

Y. Siddiqui, J. Thies, F. Ma, Q. Shan, M. Nießner, and **A. Dai**. Retrievalfuse: Neural 3d scene reconstruction with a database. In *Proceedings of the International Conference on Computer Vision (ICCV)*, 2021.

P. Palafox, A. Božič, J. Thies, M. Nießner, and **A. Dai**. Npms: Neural parametric models for 3d deformable shapes. In *Proceedings of the International Conference on Computer Vision (ICCV)*, 2021.

N. Müller, Y.-s. Wong, N. Mitra, A. Dai, and M. Nießner. Seeing behind objects for 3d multi-object tracking in rgb-d sequences. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2021.

W. Kuo, A. Angelova, T.-y. Lin, and **A. Dai**. Patch2cad: Patchwise embedding learning for in-the-wild shape retrieval from a single image. In *Proceedings of the International Conference on Computer Vision (ICCV)*, 2021.

J. Hou, S. Xie, B. Graham, **A. Dai**, and M. Nießner. Pri3d: Can 3d priors help 2d representation learning? In *Proceedings* of the International Conference on Computer Vision (ICCV), 2021.

M. Dahnert, J. Hou, , M. Nießner, and A. Dai. Panoptic 3d scene reconstruction from a single rgb image. *Proc. Neural Information Processing Systems (NeurIPS)*, 2021.

A. Bozic, P. Palafox, M. Zollhöfer, J. Thies, **A. Dai**, and M. Nießner. Neural deformation graphs for globally-consistent non-rigid reconstruction. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2021.

A. Božič, P. Palafox, J. Thies, **A. Dai**, and M. Nießner. Transformerfusion: Monocular rgb scene reconstruction using transformers. *Proc. Neural Information Processing Systems (NeurIPS)*, 2021.

A. Bokhovkin, V. Ishimtsev, E. Bogomolov, D. Zorin, A. Artemov, E. Burnaev, and **A. Dai**. Towards part-based understanding of rgb-d scans. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2021.

**A.** Dai, C. Diller, and M. Nießner. Sg-nn: Sparse generative neural networks for self-supervised scene completion of rgb-d scans. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2020.

W. Kuo, A. Angelova, T.-y. Lin, and **A. Dai**. Mask2cad: 3d shape prediction by learning to segment and retrieve. In *Proceedings of the European Conference on Computer Vision (ECCV)*, 2020.

H. Ji, A. Dai, and M. Nießner. Revealnet: Seeing behind objects in rgb-d scans. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2020.

J. Huang, J. Thies, **A. Dai**, A. Kundu, C. Jiang, L. Guibas, M. Nießner, and T. Funkhouser. Adversarial texture optimization from rgb-d scans. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 2020.

A. Bozic, P. Palafox, M. Zollhöfer, **A. Dai**, J. Thies, and M. Nießner. Neural non-rigid tracking. In *Advances in Neural Information Processing Systems*, 2020.

A. Avetisyan, T. Khanova, C. Choy, D. Dash, **A. Dai**, and M. Nießner. Scenecad: Predicting object alignments and layouts in rgb-d scans. In *Proceedings of the European Conference on Computer Vision (ECCV)*, 2020.

**A.** Dai and M. Nießner. Scan2mesh: From unstructured range scans to 3d meshes. In *Proc. Computer Vision and Pattern Recognition (CVPR), IEEE*, 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.

M. Dahnert, A. Dai, L. Guibas, and M. Nießner. Joint embedding of 3d scan and cad objects. In *Proceedings of the International Conference on Computer Vision (ICCV)*, 2019.

A. Avetisyan, A. Dai, and M. Nießner. End-to-end cad model retrieval and 9dof alignment in 3d scans. In *Proceedings* of the International Conference on Computer Vision (ICCV), 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. 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.