

Vincent Sitzmann

Curriculum Vitae

✉ sitzmann@mit.edu
📁 vsitzmann.github.io

Education

- since 07/20 **Postdoctoral Associate**, *Massachusetts Institute of Technology*, Cambridge, MA.
Computer Science and Artificial Intelligence Laboratory.
- 07/19–01/20 **Research Intern**, *Google AI*, New York City, NY.
- 09/17–04/20 **Doctor of Philosophy**, *Stanford University*, Stanford, CA.
Electrical Engineering Department, Stanford Graduate Fellowship.
- 09/15–06/17 **Master of Science**, *Stanford University*, Stanford, CA.
Computer Science Department, Fulbright Fellowship, Distinction in Research.
- 10/11–04/15 **Bachelor of Science**, *Technical University of Munich*, Germany.
Electrical Engineering, degree awarded with high distinction (top 3% of class).

Fellowships and Awards

- 2019 **NeurIPS Honorable Mention: Outstanding New Directions.**
- 2017–2020 **Stanford Graduate Fellowship.**
- 2016–2017 **Fellowship of the German Academic Exchange Service.**
- 2015–2017 **Full Fulbright Fellowship.**
- 2014 **Scholarship of the Lothar and Sigrid Rohde-Foundation.**
- 2013–2017 **Scholarship of the German National Academic Foundation.**
- 2013–2017 **Scholarship of the Max-Weber Program of Bavaria.**

Conference Publications

- C6 **Implicit Neural Representations with Periodic Activation Functions**, V. Sitzmann*, J. Martel*, A. Bergman, D. Lindell, G. Wetzstein, 2020, Conference on Neural Information Processing Systems (NeurIPS, oral).
- C5 **MetaSDF: Meta-Learning Signed Distance Functions**, V. Sitzmann*, E. R. Chan*, R. Tucker, N. Snavely, G. Wetzstein, 2020, Conference on Neural Information Processing Systems (NeurIPS, poster).
- C4 **Semantic Implicit Neural Scene Representations with Semi-supervised Training**, A. Kohli*, V. Sitzmann*, G. Wetzstein, 2020, International Conference on 3D Vision (3DV).
- C3 **State of the Art on Neural Rendering**, A. Tewari et al., 2020, Eurographics, State of the Art Report.

- C2 **Scene Representation Networks: Continuous 3D-structure-aware Neural Scene Representations**, V. Sitzmann, M. Zollhoefer, G. Wetzstein, 2019, Conference on Neural Information Processing Systems (NeurIPS, oral, Outstanding New Directions Award).
- C1 **Deep Voxels: Learning Persistent 3D Feature Embeddings**, V. Sitzmann, J. Thies, F. Heide, M. Niessner, G. Wetzstein, M. Zollhoefer, 2019, IEEE Conference on Computer Vision and Pattern Recognition (CVPR, oral).

Journal Publications

- J5 **Hybrid optical-electronic convolutional neural networks with optimized diffractive op-tics for image classification**, J. Chang, V. Sitzmann, X. Dun, W. Heidrich, G. Wetzstein, 2018, Scientific Reports.
- J4 **End-to-end Optimization of Optics and Image Processing for Achromatic Extended Depth of Field and Super-resolution Imaging**, V. Sitzmann*, S. Diamond*, Y. Peng*, X. Dun, S. Boyd, W. Heidrich, F. Heide, G. Wetzstein, 2018, ACM Transactions on Graphics (SIGGRAPH).
- J3 **Saliency in VR: How do people explore virtual environments?**, V. Sitzmann, A. Serrano, A. Pavel, M. Agrawala, D. Gutierrez, B. Masia, G. Wetzstein, 2018, IEEE Transactions on Visualization and Computer Graphics (IEEE Virtual Reality).
- J2 **Towards a Machine-learning Approach for Sickness Prediction in Virtual Environments**, N. Padmanaban, T. Ruban, V. Sitzmann, A. Norcia, G. Wetzstein, 2018, IEEE Transactions on Visualization and Computer Graphics (IEEE Virtual Reality).
- J1 **Movie Editing and Cognitive Event Segmentation in Narrative Virtual Reality**, A. Serrano, V. Sitzmann, J. Ruiz-Borau, G. Wetzstein, D. Gutierrez, B. Masia, 2017, ACM Transactions on Graphics (SIGGRAPH).

Non-Refereed Publications

- NR2 **Unrolled Optimization with Deep Priors**, S. Diamond*, V. Sitzmann*, F. Heide, G. Wetzstein, 2017, arXiv:1705.08041.
- NR1 **Dirty Pixels: Optimizing Image Classification Architectures for Raw Sensor Data**, S. Diamond, V. Sitzmann, S. Boyd, G. Wetzstein, F. Heide, 2017, arXiv:1701.06487.

Tutorials and Workshops

- 08/20 **Learning 3D Representations for Shape and Appearance**, ECCV 2020.
- 07/20 **Neural Rendering**, CVPR 2020.
- 05/20 **State of the Art on Neural Rendering**, Eurographics 2020.

Invited Talks & Presentations

- 01/21 **Stanford Center for Image Systems Engineering (SCIEN) Talk Series**, *Self-Supervised Scene Representation Learning*.

- 01/21 **Preferred Networks, Inc.**, *Implicit Neural Scene Representations*.
- 08/20 **Stanford University, course CS348I: Computer Graphics in the Era of AI**, *Guest lecture on Implicit Neural Scene Representations*.
- 08/20 **University of Toronto, Machine Learning Group**, *Implicit Neural Scene Representations*.
- 08/20 **Oxford Visual Geometry Group**, *Implicit Neural Scene Representations*.
- 08/20 **Carnegie Mellon Vision and Autonomous Systems Seminar**, *Implicit Neural Scene Representations*.
- 07/20 **University of Bath, Visual Computing Group**, *Implicit Neural Scene Representations*.
- 07/20 **ICML 2020, Workshop for Object-Oriented Representations**, *Implicit Neural Scene Representations*.
- 07/20 **Autonomous Vision Group, Max Planck Institute**, *Implicit Neural Scene Representations*.
- 07/20 **Visual Computing Lab, Technical University of Munich**, *Implicit Neural Scene Representations*.
- 03/20 **Adobe Research**, *Self-supervised Scene Representation Learning*.
- 03/20 **Google DeepMind**, *Self-supervised Scene Representation Learning*.
- 01/20 **Apple Research**, *Self-supervised Scene Representation Learning*.
- 01/20 **Google AI**, *Self-supervised Scene Representation Learning*.
- 01/20 **NVIDIA Research**, *Self-supervised Scene Representation Learning*.
- 03/18 **SIGGRAPH 2018**, *Saliency in VR*.
- 03/18 **University of Tübingen, Graphics Department**, *Learning Domain-Specific Cameras*.
- 03/18 **Max-Planck Institute for Informatics, Graphics Department**, *Learning Domain-Specific Cameras*.

Students Supervised

- Graduate **Yilun Du**, *MIT, 2020-*.
- William Agnew**, *MIT, 2020-*.
- Eric Ryan Chan**, *Stanford University, 2020*.
- Alexander William Bergman**, *Stanford University, 2020*.
- Undergrad. **Katie Collins**, *MIT, 2020-*.
- Nikhil Murthy**, *MIT, 2020-*.
- Amit Pal Kohli**, *Stanford University, 2019–2020*, now Ph.D. at UC Berkeley.

Theses

Doctoral Thesis.

- title *Self-supervised Scene Representation Learning*
- supervisor Prof. Gordon Wetzstein, Stanford University

Bachelor Thesis.

title *Plane Detection in SLAM Pointclouds for AR Applications*
supervisor Prof. Klaus Diepold, Technical University of Munich