

---

## PAPER LIST

### Compositionality and systematic generalization

---

- **October 4**

[A Benchmark for Systematic Generalization in Grounded Language Understanding](#)

Laura Ruis, Jacob Andreas, Marco Baroni, Diane Bouchacourt, Brenden M. Lake. NeurIPS 2020.

- **October 6**

[Benchmark for Compositional Text-to-Image Synthesis](#)

Dong Huk Park, Samaneh Azadi, Xihui Liu, Trevor Darrell, Anna Rohrbach. NeurIPS 2021 Datasets and Benchmarks Track.

### Multimodal representation learning

---

- **October 11**

[Learning Hierarchical Discrete Linguistic Units from Visually-Grounded Speech](#)

David Harwath, Wei-Ning Hsu, James Glass. ICLR 2020.

- **October 13**

[Learning to Learn Words from Visual Scenes](#)

Dídac Surís, Dave Epstein, Heng Ji, Shih-Fu Chang, Carl Vondrick. ECCV 2020.

### Graph neural networks

---

- **October 18**

[Learning Particle Dynamics for Manipulating Rigid Bodies, Deformable Objects, and Fluids](#)

Yunzhu Li, Jiajun Wu, Russ Tedrake, Joshua B. Tenenbaum, Antonio Torralba. ICLR 2019.

- **October 20**

[Causal Discovery in Physical Systems from Videos](#)

Yunzhu Li, Antonio Torralba, Anima Anandkumar, Dieter Fox, Animesh Garg. NeurIPS 2020.

### Object-centric representation learning

---

- **October 25**

[Learning Physical Graph Representations from Visual Scenes](#)

Daniel Bear, Chao-Fei Fan, Damian Mrowca, Yunzhu Li, Seth Alter, Aran Nayebi, Jeremy Schwartz, Li F. Fei-Fei, Jiajun Wu, Josh Tenenbaum, Daniel L. Yamins. NeurIPS 2020.

- **October 27**

[SIMONE: View-Invariant, Temporally-Abstracted Object Representations via Unsupervised Video Decomposition](#)

Rishabh Kabra, Daniel Zoran, Goker Erdogan, Loic Matthey, Antonia Creswell, Matthew Botvinick, Alexander Lerchner, Christopher P. Burgess. arXiv preprint arXiv:2106.03849, 2021.

### Neuro-symbolic approaches

---

- **November 1**

[Grounding Physical Concepts of Objects and Events Through Dynamic Visual Reasoning](#)

Zhenfang Chen, Jiayuan Mao, Jiajun Wu, Kwan-Yee Kenneth Wong, Joshua B. Tenenbaum, Chuang Gan. ICLR 2021.

- **November 3**

[PIGLeT: Language Grounding Through Neuro-Symbolic Interaction in a 3D World](#)

Rowan Zellers, Ari Holtzman, Matthew Peters, Roozbeh Mottaghi, Aniruddha Kembhavi, Ali Farhadi, Yejin Choi. ACL 2021.

## Neural implicit representations

---

- **November 8**

[Implicit neural representations with periodic activation functions](#)

Vincent Sitzmann, Julien Martel, Alexander Bergman, David Lindell, Gordon Wetzstein. NeurIPS 2020.

- **November 10**

[pi-GAN: Periodic Implicit Generative Adversarial Networks for 3D-Aware Image Synthesis](#)

Eric R. Chan, Marco Monteiro, Petr Kellnhofer, Jiajun Wu, Gordon Wetzstein. CVPR 2021.

## Dynamic networks

---

- **November 29**

[Semantically-Guided Representation Learning for Self-Supervised Monocular Depth](#)

Vitor Guizilini, Rui Hou, Jie Li, Rares Ambrus, Adrien Gaidon. ICLR 2020.

- **December 1**

[Spatially-Adaptive Pixelwise Networks for Fast Image Translation](#)

Tamar Rott Shaham, Michael Gharbi, Richard Zhang, Eli Shechtman, Tomer Michaeli. CVPR 2021.

## Neural rendering

---

- **December 8**

[Understanding Object Dynamics for Interactive Image-to-Video Synthesis](#)

Andreas Blattmann, Timo Milbich, Michael Dorkenwald, Björn Ommer. CVPR 2020.

- **December 10**

[PixelSynth: Generating a 3D-Consistent Experience from a Single Image](#)

Chris Rockwell, David F. Fouhey, Justin Johnson. ICCV 2021.

## Memory and attention

---

- **December 13**

[Learning to Simulate Dynamic Environments With GameGAN](#)

Seung Wook Kim, Yuhao Zhou, Jonah Philion, Antonio Torralba, Sanja Fidler. CVPR 2020.

- **December 15**

[Kanerva++: Extending the Kanerva Machine With Differentiable, Locally Block Allocated Latent Memory](#)

Jason Ramapuram, Yan Wu, Alexandros Kalousis. ICLR 2021.

## Vision Transformers

---

- **December 20**

[An Image is Worth 16x16 Words: Transformers for Image Recognition at Scale](#)

Alexey Dosovitskiy, Lucas Beyer, Alexander Kolesnikov, Dirk Weissenborn, Xiaohua Zhai, Thomas Unterthiner, Mostafa Dehghani, Matthias Minderer, Georg Heigold, Sylvain Gelly, Jakob Uszkoreit, Neil Houlsby. ICLR 2021.

- **December 22**

[Vision Transformers for Dense Prediction](#)

Ren Ranftl, Alexey Bochkovskiy, Vladlen Koltun. ICCV 2021.

## Deep implicit layers

---

- **December 27**

[Multiscale Deep Equilibrium Models](#)

Shaojie Bai, Vladlen Koltun, J. Zico Kolter. NeurIPS 2020.

- **December 29**

[Vid-ODE: Continuous-Time Video Generation with Neural Ordinary Differential Equation](#)

Sunghyun Park, Kangyeol Kim, Junsoo Lee, Jaegul Choo, Joonseok Lee, Sookyoung Kim, Edward Choi. AAAI 2021.