

# XINPENG WANG

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## Education

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### Technical University of Munich

*M.Sc. in Robotics, Cognition, Intelligence*

Oct. 2019 – Present

*Munich, Germany*

### Technical University of Munich

*Exchange program in Mechanical Engineering*

Oct. 2016 – Aug. 2017

*Munich, Germany*

### Dalian University of Technology

*B.Eng. in Mechanical Engineering*

Sep. 2014 – Jul. 2018

*Dalian, China*

## Relevant Coursework

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- Machine Learning for NLP Application (1,0)
- Techniques in Artificial Intelligence (1,3)
- Recent Advances in 3D Computer Vision (1,0)
- Deep Learning in Visual Computing (1,3)
- Natural Language Processing (1,3)
- Machine Learning (1,7)

## Research Experience

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### SceneFormer: Indoor Scene Generation with Transformers

2020

*Supervisor: Prof. Matthias Nießner*

*Munich, Germany*

- Represented an indoor scene as a sequence of object properties, converting scene generation to a sequence generation task.
- Leveraged the self-attention of transformers to implicitly learn relations between objects in a scene, eliminating the need for manually-annotated relations.
- Generated complex scenes conditioned on room layout or text descriptions by leveraging discretized object coordinates to predict their 3D locations.

🔗 [code] 🌐 [page] 📄 [paper] 🎥 [video]

## Projects

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### Domain Specific Multilingually Aligned Word Embeddings

2021

*Supervisors: Prof. Georg Groh and Gerhard Hagerer*

*Munich, Germany*

- Fine-tuned pre-trained English and German word embeddings on an organic food dataset.
- Investigated different mapping methods for aligning multilingual word embeddings.

📄 [report]

### Curiosity Driven Learning

2020

*Supervisor: Prof. Berthold Bäuml*

*Munich, Germany*

- Evaluated and compared the count-based and prediction-based curiosity driven learning in different Atari game environments.
- Compared the performance between intrinsic and extrinsic reward in the task of deep reinforcement learning.

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## Teaching Experience

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### Introduction to Deep Learning

SS20, WS20/21

*Teaching Assistant*

*Technical University of Munich*

- Created coding exercises covering various deep learning topics (e.g., sentiment analysis, semantic segmentation, recurrent neural network).
- Addressed theoretical and coding questions raised by students during weekly office hours.
- Designed final exam questions and solutions, organized exam procedures, and marked exam answer sheets.

## Technical Skills

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**Languages:** Python, HTML, C, MATLAB

**Developer Tools:** VS Code, PyCharm, Google Cloud Platform

**Frameworks:** PyTorch, TensorFlow

## Publication

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Wang, X., Yeshwanth, C., & Nießner, M. SceneFormer: Indoor Scene Generation with Transformers. *3DV 2021 oral.*