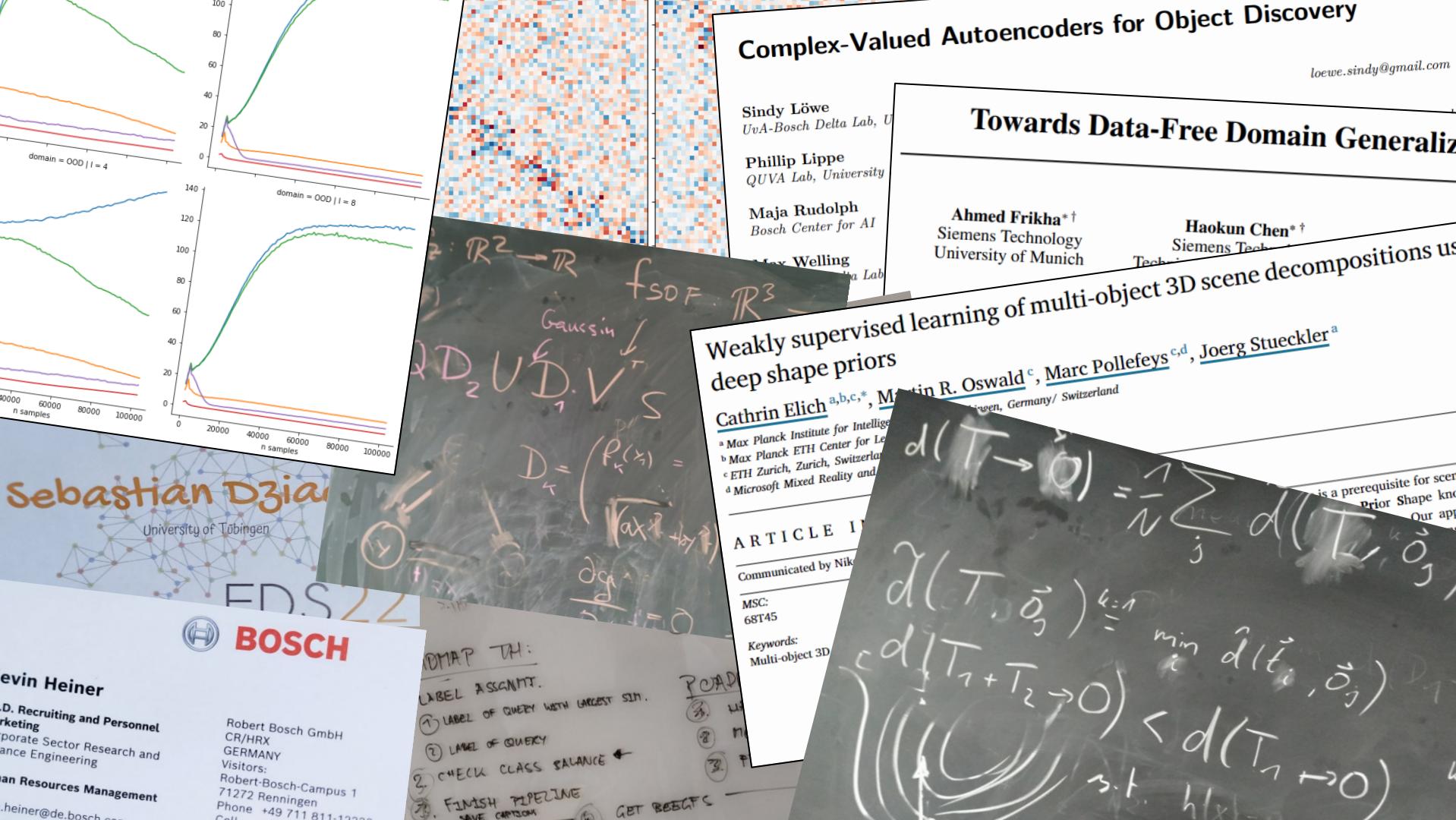


Markdown Zettelkasten

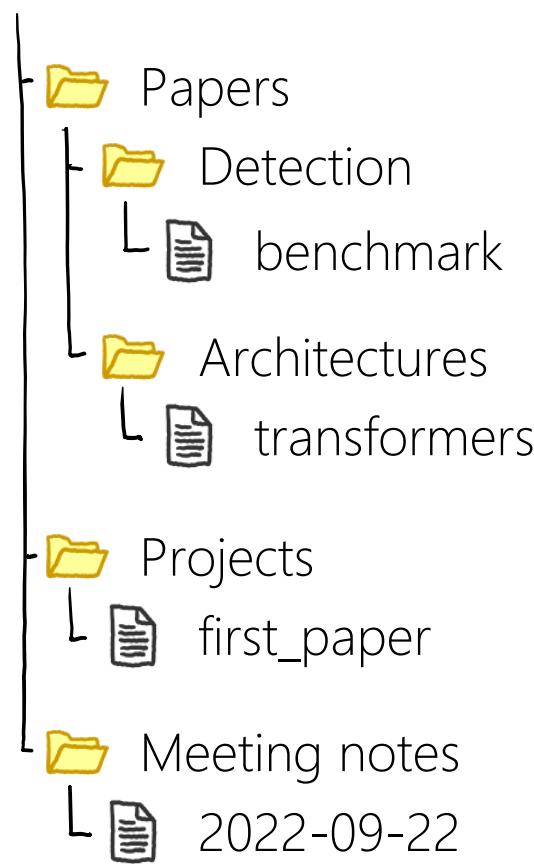
[[connected]] knowledge

Thaddäus Wiedemer

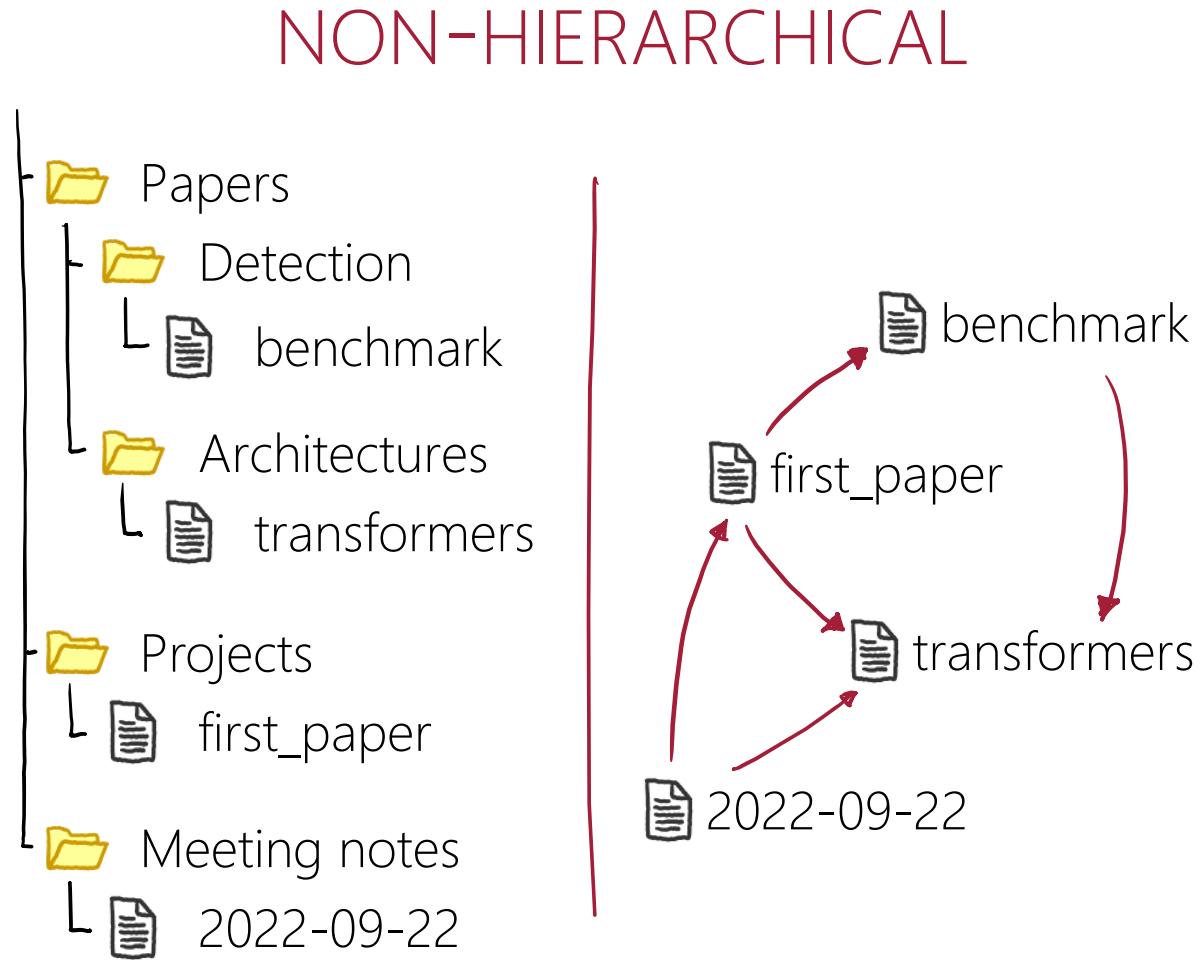


Markdown
Zettelkasten

Markdown **Zettelkasten**

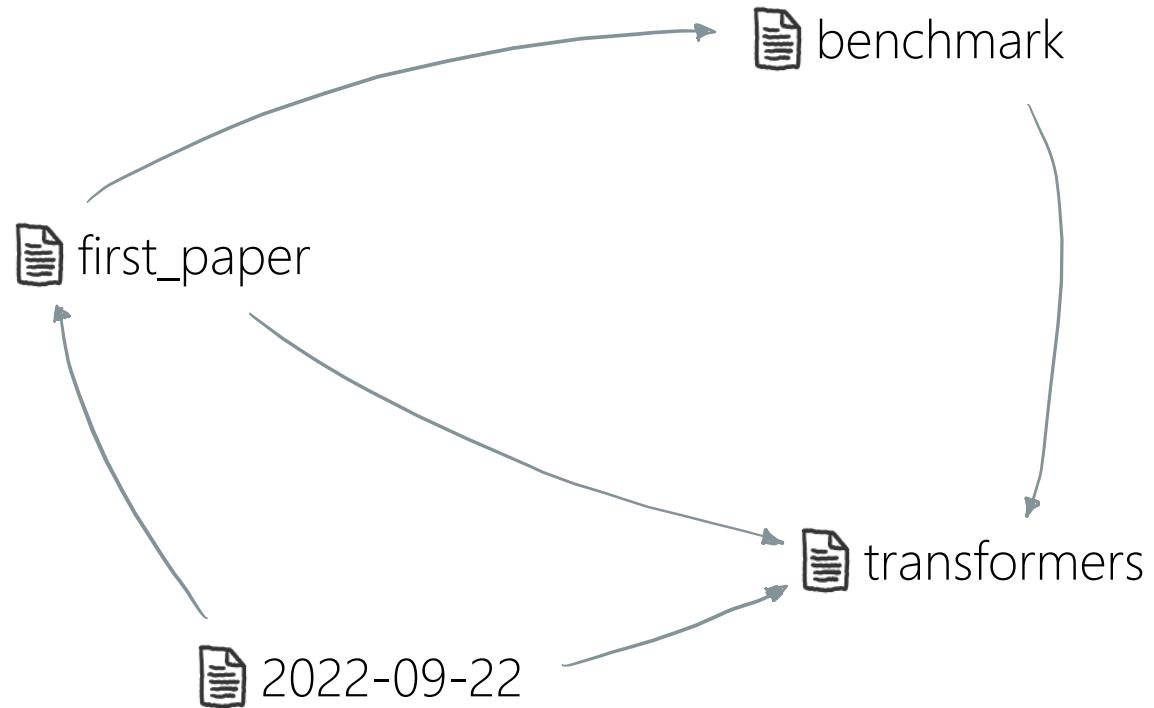


Markdown **Zettelkasten**



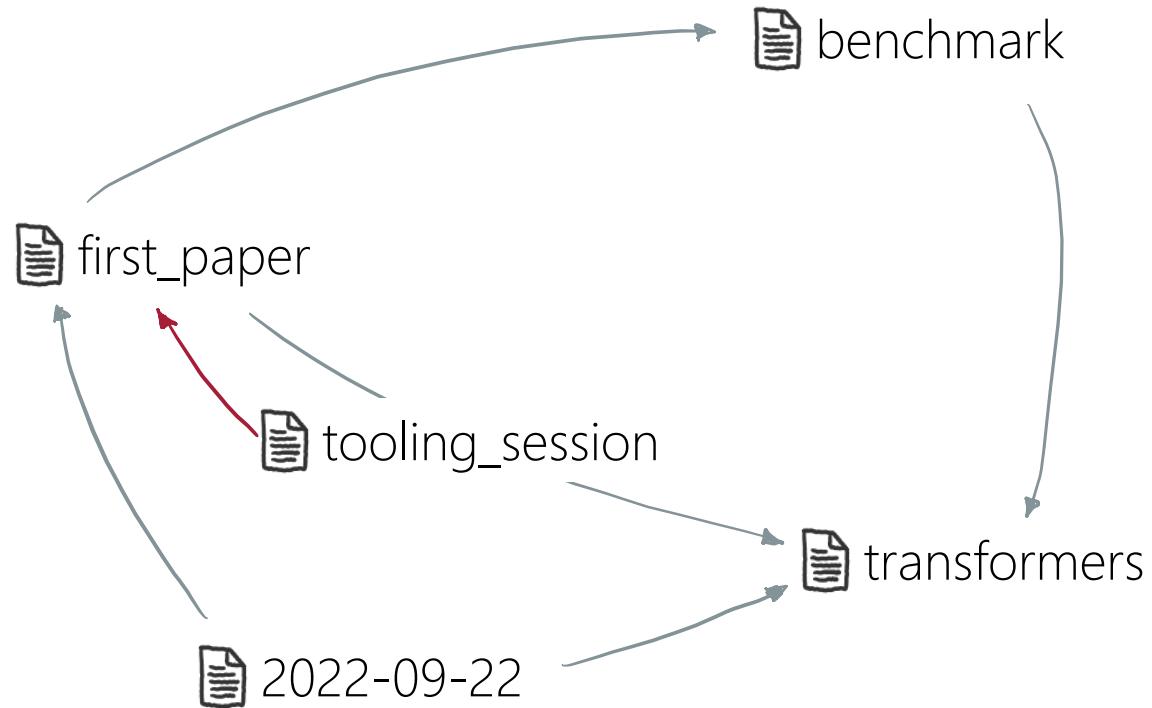
Markdown **Zettelkasten**

FAST



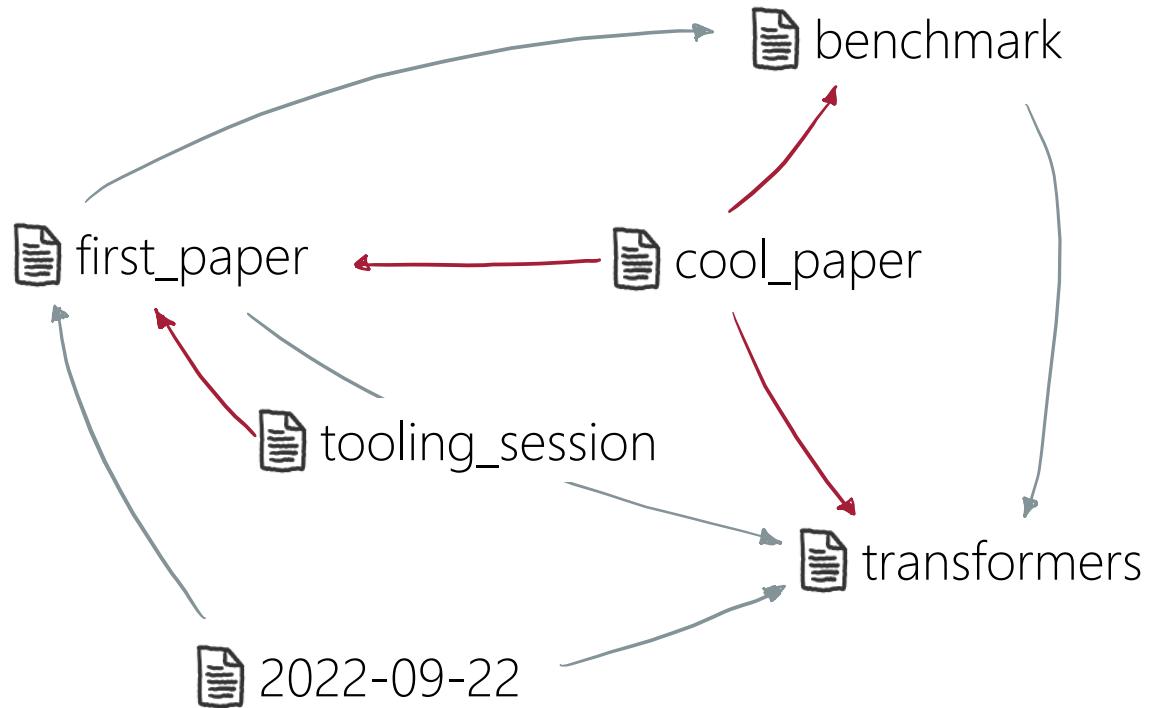
Markdown **Zettelkasten**

FAST



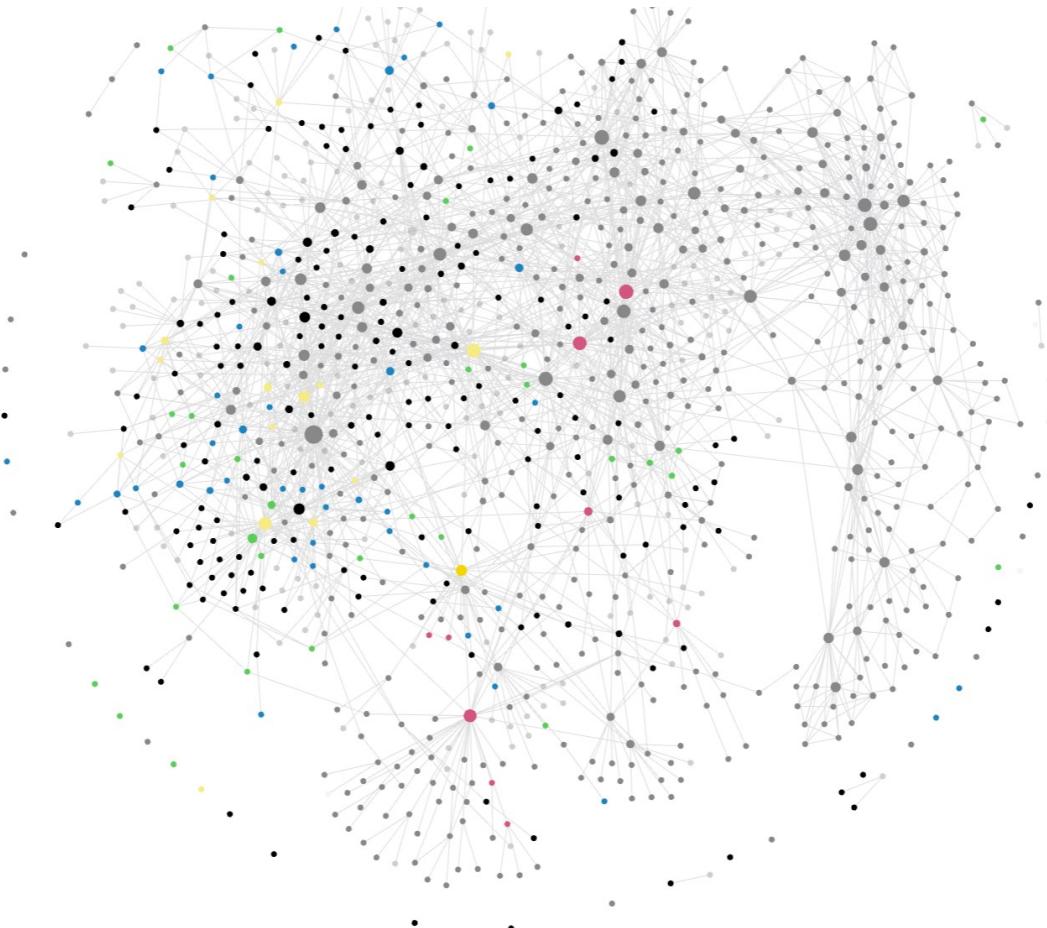
Markdown **Zettelkasten**

FAST



Markdown **Zettelkasten**

SCALABLE



Markdown **Zettelkasten**



PLAIN TEXT

@fangDataDeterminesDistributional... ✓	@feffermanTestingManifoldHypothesis... ✓	@ganinDomainAdversarialTrainingN... ✓	@geirhosImageNettrainedCNNsAre... ✓
@goelModelPatchingClosing2020.... ✓	@gutmannNoiseContrastiveEstimati... ✓	@hernandezNaturalLanguageDescri... ✓	@kar3DCommonCorruptions2022.... ✓
@kireevEffectivenessAdversarialTrai... ✓	@lundbergUnifiedApproachInterpre... ✓	@madanWhenHowCNNs2021.md ✓	@mansourDomainAdaptationLearni... ✓
@masoomiExplanationsBlackBoxM... ✓	@medingImageNetSuffersDichoto... ✓	@millerAccuracyLineStrong2021.md ✓	@mindererSimpleOpenVocabulary... ✓
@nautaAnecdotalEvidenceQuantitat... ✓	@oordRepresentationLearningContr... ✓	@parascandoloLearningIndependen... ✓	@radfordLearningTransferableVisual... ✓
@rechtImageNetClassifiersGeneraliz... ✓	@rifaiManifoldTangentClassifier201... ✓	@salmanAdversariallyRobustimage... ✓	@santurkarImageSynthesisSingle20... ✓
@schottVisualRepresentationLearni... ✓	@shenOutOfDistributionGeneralizat... ✓	@sohl-dicksteinUnsupervisedAlgori... ✓	@tancikFourierFeaturesLet2020.md ✓
@taoriMeasuringRobustnessNatural... ✓	@tsiprasRobustnessMayBe2019.md ✓	@wangUnderstandingContrastiveRe... ✓	@wilesFineGrainedAnalysisDistributi... ✓
@zhaoROBINBenchmarkRobustnes... ✓	@zimmermannContrastiveLearning... ✓	2D-Interpolation.md ✓	2022-04-26 Focus Meeting Bethge... ✓
2022-05-05 Focus Meeting(s).md ✓	2022-05-06 Update Meeting.md ✓	2022-05-10 Focus Meeting Bethge... ✓	2022-05-12 Focus Meeting(s).md ✓
20201216111655.md ✓	A neural data structure for novelty ... ✓	A Neural Programming Language f... ✓	Abtastung.md ✓
accuracy.md ✓	action and activity recognition in vi... ✓	activation functions.md ✓	active learning.md ✓
Adagrad.md ✓	adaptive learning rate.md ✓	adversarial attacks.md ✓	adversarial robustness.md ✓
AD-Wandler.md ✓	affine transformation.md ✓	AI con.md ✓	AlexNet.md ✓
algebraische Analyse von Petri-Netz... ✓	algebraisches Verfahren.md ✓	Analyzing Dynamic Adversarial Train... ✓	änderungsbasierte Bewegungsde... ✓
Anregungssignale.md ✓	Archip lab test.md ✓	ARChip lab.md ✓	art.md ✓
artificial intelligence.md ✓	artificial neural network.md ✓	atrous spatial pyramid pooling.md ✓	attention.md ✓
autoencoders.md ✓	Automatisierung ereignisdiskreter u... ✓	autoregressives Signalmodell.md ✓	average precision.md ✓
backpropagation.md ✓	bag of visual words.md ✓	bash.md ✓	Basisband- und Bandpasssignale.md ✓



Markdown Zettelkasten

Math

EASY MARKUP

You can write inline math to e.g. define some function f with inputs x and outputs y . Or you can write block equations like below here:

$$\mathcal{L}_{\text{contrastive}}(f, \tau, M) = \mathbb{E}_{\substack{(\mathbf{x}, \tilde{\mathbf{x}}) \sim p_{\text{pos}} \\ \{\mathbf{x}_i^-\}_{i=1}^M \stackrel{\text{i.i.d.}}{\sim} p_{\text{data}}}} \left[-\log \frac{e^{\frac{1}{\tau} f(\mathbf{x})^T f(\tilde{\mathbf{x}})}}{e^{\frac{1}{\tau} f(\mathbf{x})^T f(\tilde{\mathbf{x}})} + \sum_i e^{\frac{1}{\tau} f(\mathbf{x}_i^-)^T f(\tilde{\mathbf{x}})}} \right]$$

Code

Similarly, `inlince code` is possible, as well as code blocks with syntax highlighting:

```
def FindClosestThree(S: list[int], target: int) -> tuple[list[int], int]:  
    S = sorted(S)  
  
    d_min = float('inf')  
    closest_three = []  
  
    # ...
```

Python

Linking content

You can [link to websites](#) and [files](#).

You can also embed the file content:

Direct feature visualizations 	Representation Inversion 	Feature manipulation
--	-------------------------------------	---------------------------------

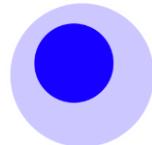
Markdown

Zettelkasten

WIDE SUPPORT



Obsidian



Foam



Zettlr



Notion



Roam



Dendron

Markdown
Zettelkasten

title: report 5
id: 20211008132800

tags:

- kit
- 21SS
- master_thesis
- 🌱

EXPORTING

Progress Report September 7th – October 8th

{-}

This month's focus was the evaluation of final modifications to the domain adaptation heads (both GPA and adversarial). Additionally, I tested different combinations of multiple adaptation heads (either only GPA/adversarial, or a combination of both). A central topic this month has been the difficulty of combining individually well-performing parts into a model that is at least as good as the sum of its parts. The best-performing candidate models were selected to be evaluated more extensively on a selection of different settings.

Since there are a lot of different aspects to discuss this month, I just want to give a rough overview over everything. The final results with more graphs and explicit data will be presented in the thesis and during the presentation.

Organization and Write-Up {-}

I'm almost on track with the project plan for this month. All modifications have been implemented, tested, and the results have been documented. Only the more extensive experiments, testing each model candidate on multiple dataset splits have not finished yet due to their long runtime (typically 3-5 days). Since the implementation is finished however, I am able to let these tests run in the background while working on the thesis and presentation. I expect all evaluations to be concluded within next week.

Split RCNN Head {-}

To allow for more fine-grained control of the adaptation within the model's final stages (the RCNN head), I've experimented with splitting the shared fully-connected layer into separate paths for the classification head and bounding-box-regressor. This is shown in figure 1. The pretrained model evaluates two fully connected layers on each extracted region of interest, and then uses only a single additional fc-layer to achieve the final classification and offsets to the bounding box. By duplicating the pretrained shared fc-layers, the classification head and bounding box regressor can diverge during fine-tuning. More importantly, we can then employ different domain adaptation methods for the classification and regression heads individually.



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I'm almost on track with the project plan for this month. All modifications I wanted to test have been implemented, tested, and the results have been documented. Only the more extensive experiments, testing each model candidate on multiple dataset splits have not finished yet due to their long runtime (typically 3-5 days). Since the implementation is finished however, I am able to let these tests run in the background while working on the thesis and presentation, so I am still able to finish on time. I expect all evaluations to be concluded within next week.

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Markdown

Zettelkasten

SCRIPTABLE

#anki

What is the *Hamilton-Jacobi-Bellman equation*? What does the *Bellman principle* look like in that case?

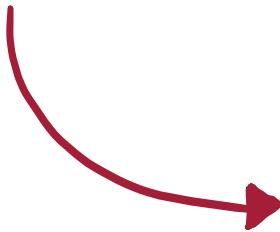
- for small timesteps $\Delta t \rightarrow 0$ the problem approaches a continuous problem:

$$\bullet J^*(t_1, \mathbf{x}_1) = \lim_{\Delta t \rightarrow 0} \min_{\mathbf{u}(t)} \left\{ \int_{t_1}^{t_1 + \Delta t} f_0(\mathbf{x}, \mathbf{u}) dt + J^*(\mathbf{x}, t_1 + \Delta t) \right\}$$

- which is then solved by the HLB equation

$$\bullet 0 = \min_{\mathbf{u}(t)} \left\{ f_0(\mathbf{x}, \mathbf{u}) + \left(\frac{dJ^*}{d\mathbf{x}} \right)^T \mathbf{f}(\mathbf{x}, \mathbf{u}) \right\}$$

- where f_0 denotes the infinitesimal step cost and \mathbf{f} is the system function $\dot{\mathbf{x}} = \mathbf{f}(\mathbf{x}, \mathbf{u})$



Decks Add Browse Stats Sync

What is the *Hamilton-Jacobi-Bellman Equation*?

• $0 = \min_{\mathbf{u}(t)} \left\{ f_0(\mathbf{x}, \mathbf{u}) + \left(\frac{dJ^*}{d\mathbf{x}} \right)^T \mathbf{f}(\mathbf{x}, \mathbf{u}) \right\}$

- where f_0 denotes the function in the integral and \mathbf{f} is the function $\dot{\mathbf{x}}$ describing the system
- which results from the stepsize Δt (= time) in the *Bellman equation* going towards 0

<10m 2d 2d 2d

Again Hard Good Easy

Markdown

Zettelkasten

Workflow

Workflow

1

Create

```
---
```

```
title: {{title}}
```

```
id: {{date:YYYYMMDDHHmmss}}
```

```
aliases: []
```

```
tags:
```

```
  - 🧑
```

```
---
```

```
[created::{{date}}]
```

```
[active::true]
```

```
[interval::0]
```

```
[last seen::{{date}}]
```

```
[last messaged::{{date}}]
```

```
[location::]
```

people

```
---
```

```
title: {{title}}
```

```
id: {{date:YYYYMMDDHHmmss}}
```

```
aliases: []
```

```
tags:
```

```
  - 📄
```

```
  - phd
```

```
---
```

```
add citation
```

paper

Motivation & Contributions

Method

Results

Limitations, Ideas, Extensions

```
---
```

```
title: {{title}}
```

```
id: {{date:YYYYMMDDHHmmss}}
```

```
aliases: []
```

```
tags:
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```
  - 🌱
```

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  - 💡
```

```
  - phd
```

```
---
```

```
Notion • Project Board • GitHub
```

project

Meetings

Dataview: No results to show for list query.

Experiments

Dataview: No results to show for list query.

Tasks

Description

Related Papers

Workflow

1

Create

2

Connect

```
---  
title: Transformer  
id: 20220921103412  
aliases: []  
tags:  
- 🌱  
- phd  
---
```

A **transformer** is a deep learning model that adopts the mechanism of self-attention, differentially weighting the significance of each part of the input data. It is used primarily in the fields of natural language processing (NLP) and computer vision (CV).

Like recurrent neural networks (RNNs), transformers are designed to process sequential input data, such as natural language, with applications towards tasks such as translation and text summarization...

Workflow

1 Create

2 Connect



A **transformer** is a [deep learning](#) model that adopts the mechanism of self-attention, differentially weighting the significance of each part of the input data. It is used primarily in the fields of [natural language processing \(NLP\)](#) and [computer vision \(CV\)](#) (see [vision transformer \(ViT\)](#)).

Like [recurrent neural network \(RNNs\)](#), transformers are designed to process sequential input data, such as natural language, with applications towards tasks such as [translation](#) and [text summarization...](#)

They were introduced in [this paper](#).

The SOTA is summarized in [this survey](#).

original paper

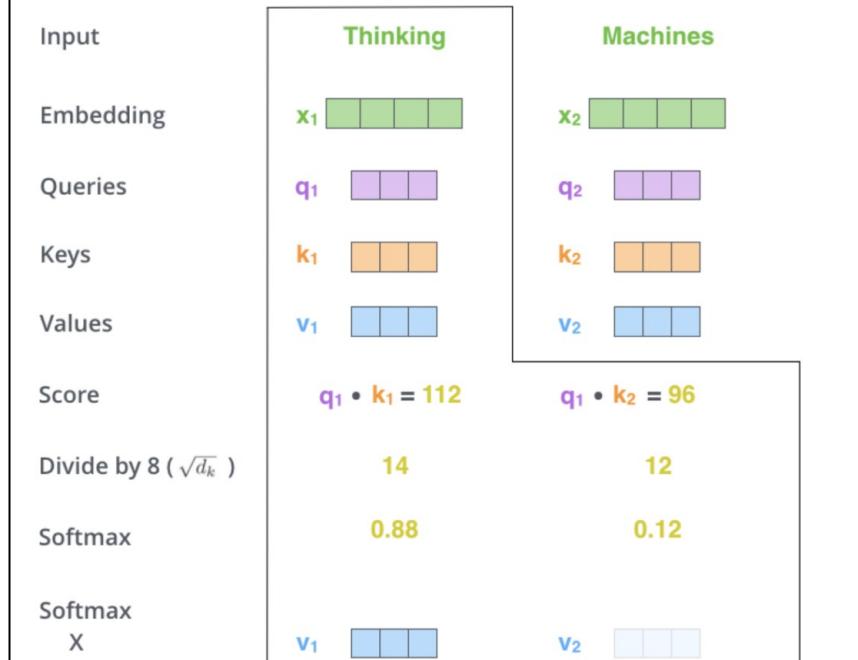
related papers

new topics

Workflow

- 1 Create
- 2 Connect
- 3 Refactor

(from [Jay Alammar's blog](#) ^⑤):



Workflow

1

Create

2

Connect

3

Refactor

```
---  
title: Transformer  
id: 20220921103412  
aliases: []  
tags:  
- 🌱  
- phd  
---
```

A **transformer** is a [deep learning](#) model that adopts the mechanism of [self-attention](#), differentially weighting the significance of each part of the input data. It is used primarily in the fields of [natural language processing \(NLP\)](#) and [computer vision \(CV\)](#) (see [vision transformer \(ViT\)](#)).

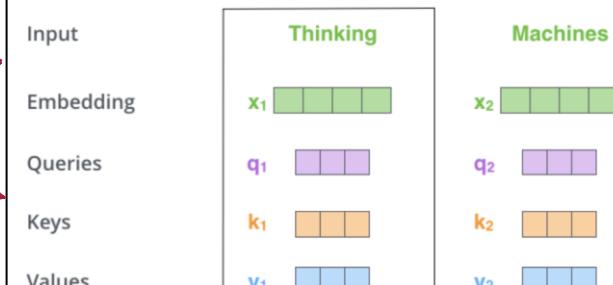
Like [recurrent neural network \(RNNs\)](#), transform input data, such as natural language, with applications and [text summarization](#)...

They were introduced in [this paper](#).

The SOTA is summarized in [this survey](#).



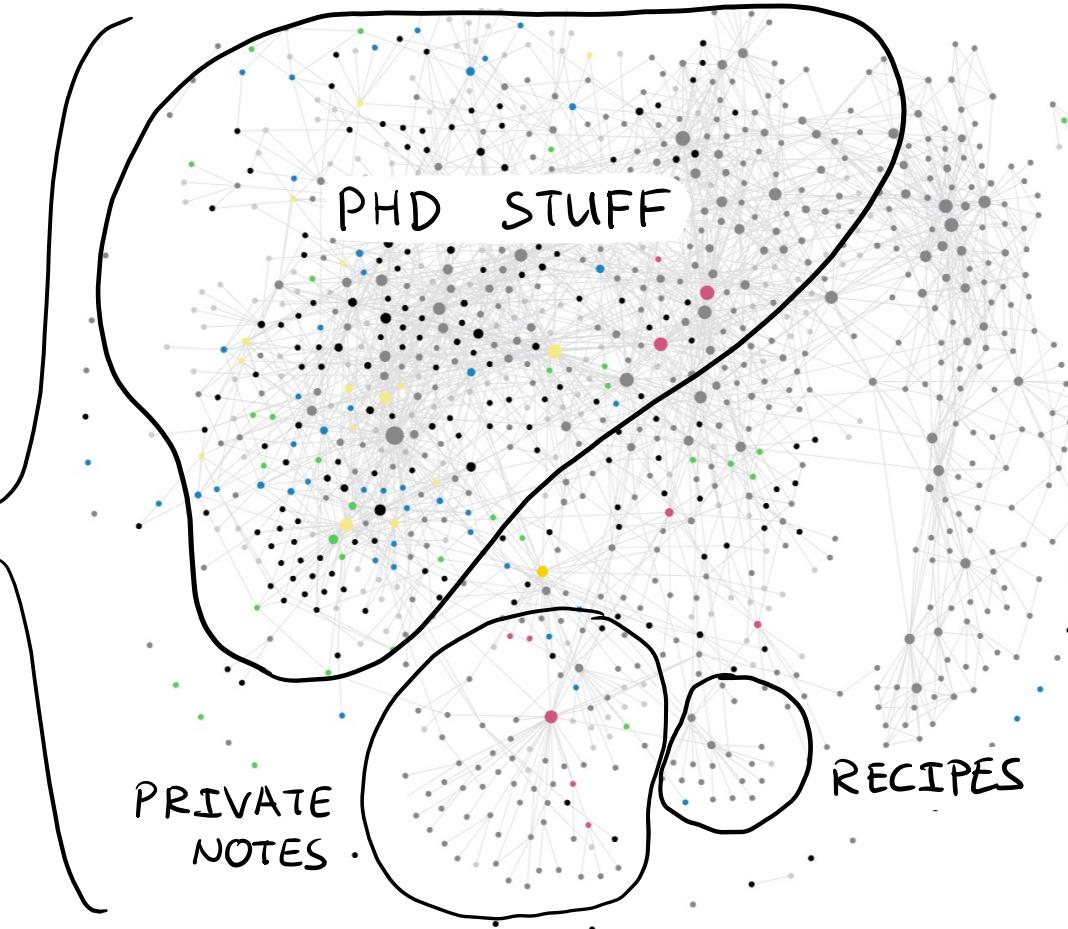
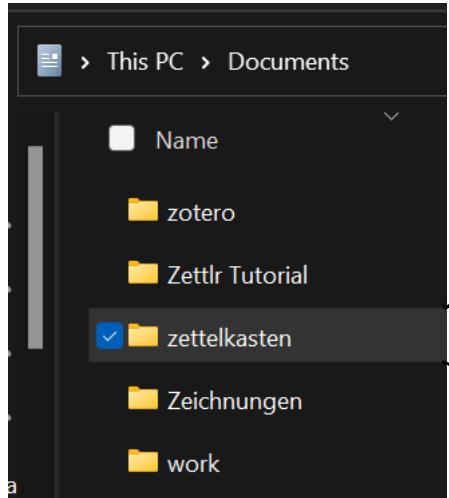
```
---  
title: self-attention  
id: 2022070511036  
aliases: [multi-headed attention, multi-headed self-attention]  
tags:  
- 🌱  
- phd  
---  
Introduced in Attention is All you Need, self-attention is used in transformers to encode sequences.  
(from Jay Alammar's blog):
```



Dos & Don'ts

USE MULTIPLE ZETTELKÄSTEN

Don't



Don't

USE TAGS

#architectures

A **transformer** is a #deep learning model that adopts the mechanism of self-attention, differentially weighting the significance of each part of the input data. It is used primarily in the fields of #NLP and #CV (see vision transformer (ViT)).

Like recurrent neural network (RNNs), transformers are designed to process sequential input data, such as natural language, with applications towards tasks such as translation and text summarization...

They were introduced in this paper.

The SOTA is summarized in this survey.

Don't

USE TAGS – EXCEPT FOR META-INFO

```
---
```

```
title: attention
id: 20210217140947
tags:
  - 
  - kit
  - 20WS
  - DLCV
  - _anki=daily::Vorlesungen::DLCV
  - phd
---
```

```
---
```

note quality



 hub page

 project

 experiment

 meeting

 idea

 contact

 quote

 paper

-  method

-  benchmark

-  dataset

-  theory

Do

USE BACKLINKS

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▶ D ³ - Differentiable Disentanglement Dataset	2

□ Identifiability for Compositional In-Domain OOD Generalization
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Meetings

- [2022-09-16 Research Meeting](#)
- [2022-09-15 FM Brendel](#)
- [2022-09-09 Research Meeting](#)
- [2022-09-09 Project Meeting_OOD with Jack](#)
- [2022-09-02 Research Meeting](#)
- [2022-08-26 Research Meeting](#)
- [2022-07-28 FM Brendel](#)
- [2022-07-22 Research Meeting](#)
- [2022-07-15 Research Meeting](#)
- [2022-07-07 Project Meeting_OOD](#)
- [2022-06-09 FM Brendel](#)
- [2022-06-03 Research Meeting](#)
- [2022-05-27 Research Meeting](#)
- [2022-05-06 Research Meeting](#)
- [2022-04-29 Research Meeting](#)
- [2022-04-22 Research Meeting](#)

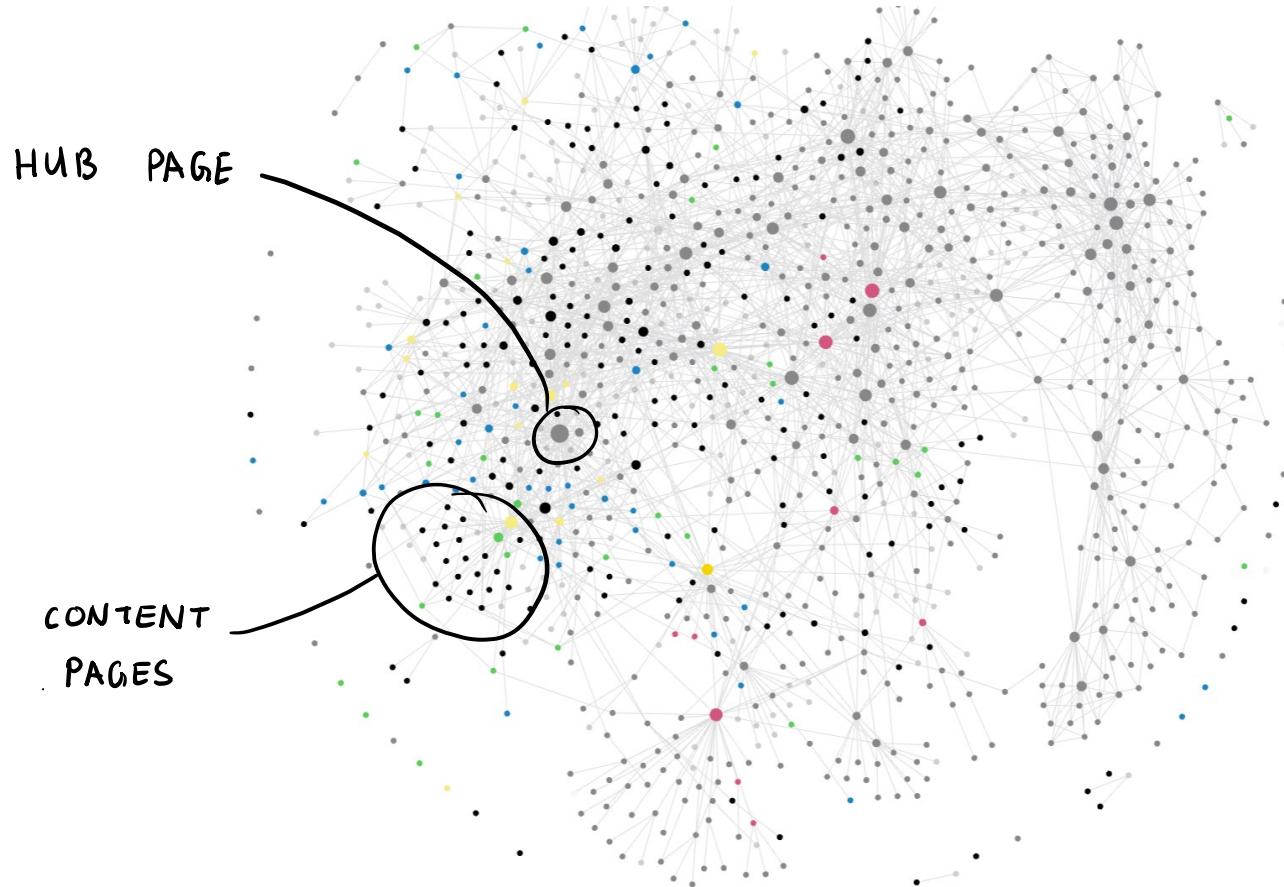


Experiments

- [OOD Regularization](#)
- [Thoughts on the Compositional Contrast](#)
- [Object Compositional vs. Attribute Compositional](#)
- [Getting Regularized Models to Train](#)
- [sampling](#)
- [thoughts on what regularizer yields generalizability](#)
- [path-consistency for compositionality](#)

Do

CREATE HUB PAGES

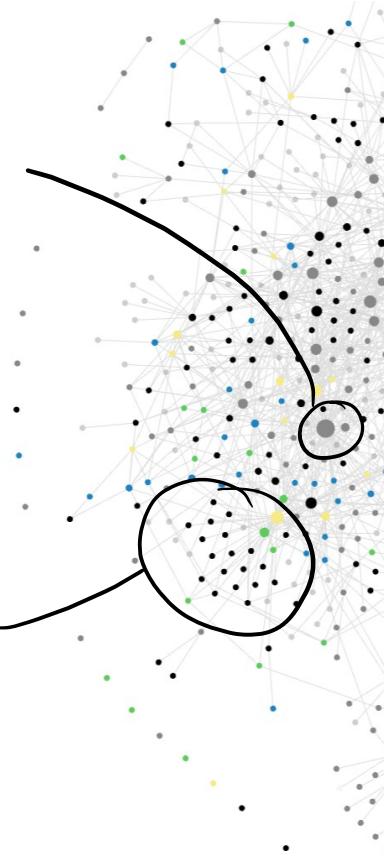


Do

CREATE HUB PAGES

HUB PAGE

CONTENT
PAGES



title: meetings
id: 20220426131535
tags:
- 🌳
- 🎓
- 🗓
- phd

[Zoom Wieland](#) • [Zoom Ma](#)

• [2022-09-16 Research M](#)
• [2022-09-15 FM Brendel](#)
• [FM Bethge](#)
• [2022-09-09 Research M](#)
• [2022-09-09 Project Mee](#)
• [2022-09-08 FM Brendel](#)
• [2022-09-02 Research M](#)
• [2022-09-01 FM Brendel](#)
• [2022-08-31 Takl ML Clu](#)
• [2022-08-30 FM Bethge](#)
• [2022-08-26 Research M](#)
• [2022-08-25 FM Brendel](#)
• [2022-08-23 FM Bethge](#)
• [2022-08-19 Research M](#)
• [2022-08-18 FM Brendel](#)
• [2022-08-16 Project Mee](#)
• [2022-08-16 FM Bethge](#)
• [2022-08-11 FM Brendel](#)
• [2022-08-04 FM Brendel](#)
• [2022-07-28 FM Brendel](#)
• [2022-07-26 FM Bethge](#)
• [2022-07-22 Research Meeting](#)

title: PhD
id: 20220205093201
tags:
- 🌳
- 🎓
- phd

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[papers to read](#) • [ideas to try](#) • [meetings](#) • [contacts](#)

Projects

- [Understanding the effective robustness in CLIP](#)
- [Scale](#)
- [Robustness of ABS NeRF](#)
- [MLCloud Interfaces](#)
- [Identifiability for Compositional In-Domain OOD Generalization](#)
- [D³ - Differentiable Disentanglement Dataset](#)

Tasks

Do

START WRITING!



Thanks!

Knihovny SSSR
Knihovny Varšavské

Knihovny vědecké
Knihovny - dějiny

Knihovny - dějiny
Knihy - výroba

Knihovny - dějiny
Knihy - výroba

Kobliha, F.
Kolekce spisů

Kojení
Kollektiv učitelská

Komeník, J. A. pedagogik
Kompromisy politické

Komsomol
Kommunistické CD

Komunikace nepersonální
Komunismus -

Kommunistické produkce
Kommunistická strana

Komun. Strana Československá

KS Německa - programy
Košťáková - Veselá, L.

Konflikty
Konflikty veřejnosti

Konflikty
Konflikt

Konfliktové
Kopaná ČSR (po r. 1968)

Kopaná ČSSR
Korea lid. dem.

Korea (lid. dem.) - sociologie

Korporace
Kosmologie

