

# Lukas Muttenthaler | CV

🌐 lukasmut.github.io • LinkedIn

## Education

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- **PhD, Cognitive Science** **Leipzig / Tübingen, Germany**  
*ViCCo group, Max-Planck-Institute for Human Cognitive and Brain Sciences* 2020 -  
**Topic:** "Relationship between visual and semantic representations in humans and artificial intelligence models"  
**Main advisor:** Martin Hebart; **University advisor:** Felix Wichmann
- **MSc, IT and Cognition (> 60 ECTS in Computer Science)** **Copenhagen, Denmark**  
*Department of Computer Science, University of Copenhagen (GPA: 11.4  $\approx$  1.1 in GER)* 2018 - 2020  
**Thesis:** "Subjective QA: Deciphering the inner workings of Transformers in the realm of subjectivity" (NLP)  
**Advisors:** Johannes Bjerva, Isabelle Augenstein
- **BSc, Psychology** **Vienna, Austria**  
*Faculty of Psychology, University of Vienna (GPA: 1.5)* 2015 - 2018  
**Thesis:** "How language shapes motion event cognition" (Cognitive Psychology)  
**Advisors:** Thomas Ditye, Ulrich Ansorge
- **BA, Political Science & Philosophy** **Vienna, Austria**  
*Faculty of Social Sciences, University of Vienna (GPA: 1.7)* 2012 - 2015  
**Advisor:** Ursula Naue

## Employment

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- **PhD Researcher in Computational Cognitive Neuroscience (CCN)** **Leipzig, Germany**  
*ViCCo group, Max-Planck-Institute for Human Cognitive and Brain Sciences* August 2020 -
- **Research Assistant & Programmer** **Copenhagen, Denmark**  
*Machine Learning, Department of Computer Science, University of Copenhagen* May 2019 - January 2020
- **Data Analyst** **Copenhagen, Denmark**  
*Technology Advisory, Ernst & Young (EY)* January - April 2019
- **Research Intern** **Munich, Germany**  
*Clinical Neuropsychology, Faculty of Psychology, LMU Munich* July - September 2017
- **Student Research Assistant** **Vienna, Austria**  
*Cognitive Psychology, Faculty of Psychology, University of Vienna* July 2016 - June 2018

## Scholarships & Awards

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- **EDOC 2019** **Paris, France**  
*Best Demonstration Award for our paper* 2019  
*"Assisted Declarative Process Creation from Natural Language Descriptions"*
- **Fund of Excellence** **Vienna, Austria**  
*one of a few candidates who received funding to pursue a Master's in a STEM subject* 2018

- **Scholarship for Academic Excellence** **Vienna, Austria**  
2016 - 2018  
awarded by UV for three consecutive years for excellent grades in Psychology
- **Performance Scholarship** **Vienna, Austria**  
2016 - 2018  
awarded by Julius-Raab-Foundation due to high achievements in BSc Psychology
- **Scholarship for Academic Excellence** **Vienna, Austria**  
2013 - 2015  
awarded by UV for three consecutive years for excellent grades in Political Science

## Teaching

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- **Teaching Assistant** **Vienna, Austria**  
2017 - 2018  
Cognitive Psychology II, Faculty of Psychology, University of Vienna  
Visual Perception, Memory, Attention, Language, Intelligence

## Reviewing

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- PLOS Computational Biology (Ad-hoc reviewer)

## Skills

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- **Natural Languages:**  
English (IELTS 8.0), German (native)
- **Programming Languages:**  
Python (extensive), Bash (intermediate), Matlab (basic), R (basic), SQL (basic), HTML (basic), CSS (basic)
- **Libraries:**  
PyTorch, TensorFlow, Keras, NumPy, Scikit-Learn, SciPy, Pandas, Matplotlib, Seaborn, spaCy, NLTK
- **Miscellaneous:**  
L<sup>A</sup>T<sub>E</sub>X, Linux / Unix, Git, Slurm, Singularity, Jupyter, LinAlg

## Publications

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### Peer-reviewed.....

- **Muttenthaler, L.**, Augenstein, I., Bjerva, J. (2020). Unsupervised Evaluation of Question Answering with Transformers. In *Proceedings of the Third BlackboxNLP Workshop on Analyzing and Interpreting Neural Networks for NLP*, pp. 83-90. Association for Computational Linguistics (ACL). DOI: 10.18653/v1/2020.blackboxnlp-1.8
- López, H. A., Marquard, M., **Muttenthaler, L.** Strømsted, R. (2019). Assisted Declarative Process Creation from Natural Language Descriptions. In 2019 IEEE 23rd International Enterprise Distributed Object Computing Conference (EDOC). DOI: 10.1109/EDOCW.2019.00027 [Best Demonstration Award]
- **Muttenthaler, L.**, Lucas, G., Amann, J. (2019). Authorship Attribution in Fan-fictional Texts Given Variable Length Character and Word *n*-grams - Notebook for PAN at CLEF 2019. In Linda Cappellato, Nicola Ferro, David E. Losada and Henning Mueller, editors, *CLEF 2019 Labs and Workshops, Notebook Papers, September 2019*. CEUR-WS.org. [Winning team of the PAN authorship attribution competition]
- Buesel, C., Ditye, T., **Muttenthaler, L.**, Ansorge, U. (2019). A Novel Test of Pure Irrelevance-Induced Blindness. *Frontiers in Psychology*, 10:375. DOI: 10.3389/fpsyg.2019.00375
- **Muttenthaler, L.** (2018). Effective enhancement of attentional functions in the amblyopic brain. *Journal of European Psychology Students*, 10(1), 1-10. DOI: 10.5334/jeps.435

## Preprints.....

- **Muttenthaler, L.** (2020). Subjective Question Answering: Deciphering the inner workings of Transformers in the realm of subjectivity. arXiv preprint arXiv:2006.08342. (Master's thesis in Computer Science, University of Copenhagen.)
- **Muttenthaler, L., Hollenstein, N., Barrett, M.** (2020). Human brain activity for machine attention. arXiv preprint arXiv:2006.05113.