

Lukas Muttenthaler | CV

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Education

- **PhD, Computer Science** **Leipzig, 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
- **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

- **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

- **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

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

Reviewing

- PLOS Computational Biology (Ad-hoc reviewer)

Skills

- **Natural Languages:**
English (IELTS 8.0), German (native)
- **Programming Languages:**
Python (extensive), Bash (intermediate), Matlab (basic), R (basic), SQL (basic), HTML (basic)
- **Libraries:**
PyTorch, TensorFlow, Keras, NumPy, Scikit-Learn, SciPy, Pandas, spaCy, NLTK
- **Miscellaneous:**
L^AT_EX, Linux / Unix, Git, Slurm, Singularity, Jupyter, LinAlg

Publications

Peer-reviewed.....

- **Muttenthaler, L.**, Augenstein, I., Bjerva, J. (2020). Unsupervised Evaluation of Question Answering with Transformers. In *Proceedings of the 2020 EMNLP Workshop BlackboxNLP: Analyzing and Interpreting Neural Networks for NLP*. arXiv:2010.03222.
- 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.** (2019). 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](https://arxiv.org/abs/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](https://arxiv.org/abs/2006.05113).