Lukas Muttenthaler | CV

lukasmut.github.io • LinkedIn

Education

PhD (Dr. rer. nat.), Artificial Intelligence **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 ≈ 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 Student & Research Assistant 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**
awarded by UV for three consecutive years for excellent grades in Psychology *2016 - 2018*

Performance Scholarship **Vienna, Austria**
awarded by Julius-Raab-Foundation due to high achievements in BSc Psychology *2016 - 2018*

Scholarship for Academic Excellence **Vienna, Austria**
awarded by UV for three consecutive years for excellent grades in Political Science *2013 - 2015*

Teaching

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

Reviewing

o PLOS Computational Biology (Ad-hoc reviewer)

Skills

o **Natural Languages:**
English (IELTS 8.0), German (native)

o **Programming Languages:**
Python (extensive), Bash (intermediate), Matlab (basic), R (basic), SQL (basic), HTML (basic), CSS (basic)

o **Libraries:**
PyTorch, TensorFlow, Keras, NumPy, Scikit-Learn, SciPy, Pandas, Matplotlib, Seaborn, spaCy, NLTK

o **Miscellaneous:**
LaTeX, Linux / Unix, Git, Slurm, Singularity, Jupyter, LinAlg

Publications

Peer-reviewed..

o **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

o 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*]

o **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*]

o 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

o **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

o **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.)

o **Muttenthaler, L.**, Hollenstein, N., Barrett, M. (2020). Human brain activity for machine attention. arXiv preprint arXiv:2006.05113.