Simon R. Steinkamp

Data Scientist, with background in cognitive neuroscience

Profile

I am a Data Scientist and close to obtain my PhD in Psychology. Next to research experience in neuroimaging and designing psychological experiments, I also got used to work on different kinds of data, like participating in challenges on Kaggle (since ~5 years). Having switched fields and countries several times in the last years, made me a very adaptable and flexible thinker, and creative problem-solver. Now I am excited to start a new chapter of my life in Copenhagen, with my partner.

Experience

2016–2020 **Doctoral Researcher**, *Research Centre Jülich*, Germany.
Conducted and collected behavioral and neuroimaging (fMRI) data of a visual attention experiment. Showed similarity of task representation in the brain using mass-univariate and multivariate (Bayesian) statistics and machine learning approaches (published). Showed that it is possible to simultaneously model continuous behavioral and neural responses in the same nonlinear steady state model (DCM) (preprint).

2013-2016 **Student Research Assistant**, *University of Oldenburg*, Germany.
Operated MR scanner, programmed experiments, data analysis and collection, supervised undergraduates.

2015 **Internship: Computational Audition**, *University of Oldenburg*, Germany.
Investigated the possibility to use automatic speech recognition software to translated brain recordings to text.

Skills

Technical

Python	●●●●◐	*pandas, numpy, matplotlib, tensorflow/keras, seaborn, altair, jupyter, nbdev*
Matlab	●●●●○	*neuroimaging: SPM, EEGlab*
R	●●●◐○	*ggplot2, tidyverse, lme4, BayesFactor*
LaTeX	●●●○○	*Articles, academic Posters, and presentations*

Software Development: Translated a Matlab package for timeseries analysis to Python, including test-suite and continuous integration. Contributions to e.g. nilearn, datalad-osf on Github.

Machine Learning: Two times Kaggle silver (TReNDS Neuroimaging, LANL Earthquake Prediction), classified task conditions using neuroimaging data (research)

Statistics & Visualization: Quantifying and displaying uncertainties for complex datasets, using cross-validation and Bayesian methods, e.g. publications and blog.

Social

German ●●●●● English ●●●●◐

Presenting & Writing: Authored scientific publications, poster presentations at conferences, certified The Carpentries instructor.

Teamwork: Organized lectures and social events in student bodies. Creating a minimally working-prototype for semantic segmentation at the last HIDA-Datathon in less than 48h.

International & Intercultural: Studied and lived in the Netherlands and Turkey (Erasmus & internship), enrolled in international study programs (B.Sc, M.Sc.), international workplaces.

Education

2016–now **Doctoral Studies in Psychology**, *University of Cologne*, Germany, under evaluation.

Thesis Visual Attention along the Visual Fields Meridians – Computational Modeling of Neural and Behavioral Dynamics.

2013–2016 **M.Sc. Neurocognitive Psychology**, *University of Oldenburg*, Germany, Very Good.

Thesis Relating graph based measures of network topology to fluctuations in selective auditory attention: A concurrent EEG / fMRI study.

Combining different kinds of human data (imaging, timeseries) to investigate how attention shapes the processing of speech in the brain (machine learning), and how it relates to underlying brain networks (graphtheory)

2010–2013 **B.Sc. Psychology**, *University of Groningen*, Netherlands.

Thesis Social influence on visual perception: A question of topդdown processing or trust in information?

Personal

Next to working with data (as a hobby), I love to go for a run, do – when there is no pandemic – martial arts / self-defense (e.g. Krav Maga) and pair-dancing (ball-room and Latin). Additionally, I love reading broadly be it textbooks on machine learning, pop-science on design or political theory, biographies or fiction. Or wind-down playing board or computer games.

Courses & Certificates

- Software Carpentries Instructor, The Carpentries, 2021
- Reinforcement Learning Specialization, University of Alberta, Coursera, 2020
- Computational Psychiatry, Translational Neuromodeling Unit, Zurich 2019
- A Crash Course in Causality, University of Pennsylvania, Coursera, 2019
- Deep Learning Specialization, deeplearning.ai, Coursera, 2018

Publications

- **Steinkamp, S. R.**, Weidner, R., Fink, G. R., & Vossel, S. (**2020**). Simultaneous Modeling of Reaction Times and Brain Dynamics in a Spatial Cuing Task, **bioRxiv** 2020.11.16.384198; https://doi.org/10.1101/2020.11.16.384198
- **Steinkamp, S. R.**, Vossel, S., Fink, G. R., & Weidner, R. (**2020**). Attentional reorientation along the meridians of the visual field: Are there different neural mechanisms at play? **Human Brain Mapping**, 25086. https://doi.org/10.1002/hbm.25086
- Botvinik-Nezer, R., Holzmeister, F., Camerer, C. F., Dreber, A., Huber, J., Johannesson, M., ... **Steinkamp, S. R.** ... Schonberg, T. (**2020**). Variability in the analysis of a single neuroimaging dataset by many teams. **Nature**. https://doi.org/10.1038/s41586-020-2314-9
- Puschmann, S., **Steinkamp, S.**, Gillich, I., Mirkovic, B., Debener, S., & Thiel, C. M. (**2017**). The Right Temporoparietal Junction Supports Speech Tracking During Selective Listening: Evidence from Concurrent EEG-fMRI. **The Journal of Neuroscience**, 37(47), 11505. https://doi.org/10.1523/JNEUROSCI.1007-17.2017