

Lukas Hondrich

Berlin, Germany

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Profile:

Applied machine learning researcher with an academic background in cognitive-computational neuroscience. I research requirements for hybrid human-machine systems from a regulatory perspective and develop concrete technical solutions in the context of machine learning for digital histopathology.

Professional Experience

Reviewer <i>Hans-Böckler-Foundation - Funding body</i> <ul style="list-style-type: none">Assessing data-science methods for grant proposals w. research focus: "Structural change and global division of labor" with a volume > 500k€	02, 2023 – 06, 2023 Berlin, Germany
Researcher <i>FernUniversität in Hagen</i> <ul style="list-style-type: none">Researching human oversight and automation bias in high-risk AI systemsAssessing fit between human oversight provisions and genAI/LLM risk profiles	10, 2022 – present Hagen, Germany
Machine Learning Researcher <i>Institute of Medical and Human Genetics, Charité / LIMAA Technologies</i> <ul style="list-style-type: none">cVAE, U-net, etc. for 3D segmentation and human-in-the-loop refinementExplainability: feature-, latent space- and saliency mapsInfrastructure for deploying, logging, analyzing experimentsMacOS-application for interactive post-processing of images and videos	03, 2022 – present Berlin, Germany <i>Python, TF, OpenCV</i> <i>Python, TF, OpenCV</i> <i>Bash, Slurm, Neptune.AI</i> <i>Python, PyQt, PySide</i>
Researcher <i>AlgorithmWatch - civil society organisation</i> <ul style="list-style-type: none">Consulted works council of Robert Bosch GmbH on transparency and fairness in semantic search systemsResearched generalizable ways of co-determining machine learning systems	03, 2021 – 03, 2022 Berlin, Germany
Machine Learning Engineer <i>Thomann.io - biggest european music equipment company</i> <ul style="list-style-type: none">Engineered collective-filtering recommendation engineEngineered forecasting system for stock optimizationBuilt statistical analysis tool for anomaly and trend detectionEngineered multi-modal forecasting system for global parcel delivery	10, 2018 – 09, 2020 Berlin, Germany <i>GCP, Docker, PySpark, Python, xgraph</i> <i>GCP, Docker, Python, TF</i> <i>GCP, Docker, Python, SciPy</i> <i>GCP, Docker, Python, TF</i>

Education

Technical University Dresden <i>M.Sc. Cognitive-Affective Neuroscience</i>	2015 – 2018 grade: 1.6
Johannes Gutenberg-Universität Mainz <i>B.Sc. Psychology</i>	2011 – 2015 grade: 1.7

Other Research Experience

- Fellowship, Fairness in targeted advertisement** 2, 2020 – 4, 2020
Humboldt Institute for Internet and Society Berlin, Germany
- Policy recommendations for transparency of job-adds on social media platforms
- Internship, M.Sc. Thesis** 4, 2017 – 4, 2018
Bernstein Center for Computational Neuroscience & Princeton University Berlin, Germany
- Thesis: Modelling Inference in multidimensional Environments 1.1
 - Computationally modelled behavioral data with reinforcement learning, Bayesian learning [Matlab](#)
 - Applied Bayesian model comparison to high-dimensional fMRI-data in high performance cluster

Workshops, Summer-Schools, Courses

- The Race to Regulate AI: Global Comparative Perspectives*** 6, 2022
Oxford University Oxford, UK
- Conference, Workshop: EU-AI-act proposal in context of high-risk systems and protection of fundamental rights
- Data Engineering Training*** 10, 2021 – 12, 2021
Pipeline Data Engineering Academy Berlin, Germany
- Data acquisition, data warehousing, orchestration, CI/CD [Bash, SQL, Kubernetes, GCP, Prefect, Github Actions](#)
 - Project: Text-to-speech streaming of pred. popular tweets [GCP, Flask, SQL, Python, Huggingface, CoquiAI](#)
- Reinforcement Learning Specialization (MOOC)*** 01, 2021 – 04, 2021
University of Alberta, Coursera
- Fundamentals of Reinforcement Learning
 - Sample-Based Learning Methods
 - Prediction and Control with Function Approximation

Publications

- Three-Dimensional Histological Characterization of the Placental Vasculature Using Light Sheet Microscopy*
Freise, **Hondrich**, Hägerling et al. (tba). *Biomolecules*. Manuscript under review.
- Automation Bias – an interdisciplinary perspective from law and psychology*
Ruscheimer, **Hondrich** (2023). Manuscript under review.
- Addressing Automation Bias through Verifiability*
Hondrich, Ruschemeier (2023). *European Conference on Alg. Fairness. 2023*
- Working paper: From risk mitigation to employee action along the machine learning pipeline*
Mollen, **Hondrich** (2023). *Böckler Impuls*.

Talks & Webinars

- EWAF 2023 - Lightning Round** *Verifiability as a Minimal Requirement for Human Oversight*
Europ. Workshop on Alg. Fairness 2023
- AI Talks at ETUI** *The Machine Learning Pipeline: Space for Action*
European Trade Union Institute 2022
- LABOR.A** *The People-Analytics Review: AI in the Work Context*
Hans-Böckler-Stiftung 2021

Other

- Programming:** [Python](#), [R](#), [Tensorflow/Keras \(TF\)](#), [Google Cloud Products \(GCP\)](#), [Docker](#), [SQL](#), [Unity3D](#), [SKLearn](#), [OpenCV](#), [Slurm](#), [Kubernetes](#), [Bash](#), [Flask](#), [PySide](#), [PyQT](#), [Huggingface](#)
- Languages:** German - native, English - C1, Spanish - B1