Jan Malte Lichtenberg

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PROFILE

I am a final-year PhD student in machine learning with a strong theoretical background in mathematical statistics. My work experience outside academia includes end-to-end development of machine-learning models and their implementation into real-world products.

EDUCATION

OCT 2017 – PRESENT | **Computer Science** (PhD candidate), University of Bath, UK.
Studying bounded rationality in reinforcement learning. Supervised by Özgür Şimşek and Mike Tipping. Attended Machine Learning Summer School 2017.

2016 | **Statistics** (M.Sc.), Humboldt University, Free University, and TU Berlin
Final grade: 1.0 (*excellent*, best possible GPA, ECTS-Grade A)
Machine learning (in `Python`), statistical inference, and missing data analysis.

2014 | **Statistics, Economics** ("Diplôme" equivalent to M.Sc.), ENSAE Paris
Statistical modeling (in `R`), algorithms and data structures (in `Python` and `C++`), data analysis, stochastic processes, optimization, probability theory, and Monte Carlo methods.

2012 | **Economics** (B.Sc.), Humboldt University of Berlin
Final grade: 1.5 *(very good)*,

WORK EXPERIENCE & PROJECTS

FEB 2020 – PRESENT | **Applied Machine Learning Scientist** (Freelance) at OPTIMETRIKS, Paris
End-to-end object detection project for a Fortune Global 500 client: I implemented, trained, and deployed (on mobile app and on `Google Cloud Platform`) a custom object-detection model using `TensorFlow`. I managed the data-labelling process. The solution is now offered to new clients.

MAY 2019 | *This machine is learning*, installation in cooperation with MASINO BAY, London
Combined reinforcement learning, generative coding, and computer vision to create an interactive installation. Presented at D&AD Festival 2019 in London.

JAN 2016 – APRIL 2017 | **Scientific Programmer** at MAX PLANCK INSTITUTE, Berlin
Implemented research experiments in `Python` and `R`. Conducted research on decision making under uncertainty.

MAR 2015 – SEP 2015 | **Student Research Assistant** at MAX PLANCK INSTITUTE, Berlin
Assisted research projects on the ecological rationality of simple decision heuristics. Built and maintained `R` packages for data handling and analysis.

JAN 2015 – APRIL 2015 | **Data Analyst** (Freelance) at ALTAI CONSULTING, Paris
Cleaned and analyzed sociological and political survey data. Detected fraudulent behavior in the data collection process that led to improvements in subsequent projects. Presented and reported results both in-house and to external clients.

SEP 2013 – APRIL 2014 | **Econometrician** (Intern) at SO1 GMBH, Berlin
Implemented discrete choice models and latent variable models for individual-level price sensitivity estimation. This required extensive use of `R` and parallel computing. Presented results to the company's CEO and CTO.

PUBLICATIONS

My research interests include reinforcement learning, the bounded rationality of human decision making, and the interaction between human and artificial learning processes.

J. M. **Lichtenberg** and Ö. Şimşek (2019). *Regularization in directable environments with application to Tetris.* International Conference on Machine Learning (ICML). [pdf] [code]

J. M. **Lichtenberg** and Ö. Şimşek (2019). *Iterative Policy Space Expansion for Reinforcement Learning.* NeurIPS 2019 Workshop on Biological and Artificial Reinforcement Learning. [pdf]

J. M. **Lichtenberg** and Ö. Şimşek (2017). *Simple Regression Models.* Proceedings of Machine Learning Research (PMLR). [pdf]

TEACHING

2017–2019 | **Reinforcement Learning** (Master's level), University of Bath
Held lectures on deep reinforcement learning. Created all programming assignments for the entire unit. Tutored programming labs and theory tutorials. Received Faculty teaching assistant award.

2017–2019 | **Artificial Intelligence**, University of Bath
Created programming assignments for the entire unit. Tutored programming labs.

TALKS

OCT 2019 | *Regularization in directable Environments with Application to Tetris.* Invited talk at CORMSIS, University of Southampton, UK.

JULY 2019 | *A gentle introduction to Q-learning in Python.* Interactive tutorial given at PyData Bristol Meetup. [code]

AWARDS & SCHOLARSHIPS

2017–2021 *Marie Sklodowska-Curie Fellowship* PhD funding (European Union)
2019 *Faculty teaching assistant award* (University of Bath)
2019 *Travel grant* (ICML)
2012–2013 *Scholarship for the Double-Degree Program in Statistics and Quantitative Economics* (DFH/UFA)
2012 *European Exchange Program Scholarship* (ERASMUS)
2012 *Travel scholarship* (WWG, Humboldt University Berlin)

PROGRAMMING

Advanced `Python` (incl. `NumPy`, `PyTorch`, `TensorFlow` & `scikit-learn`), `R`
Intermediate `Javascript`, `Git`, `Docker`, `GCP`, `AWS`
Basic `C++`, `Java/Processing`

LANGUAGES

English *Fluent* (PhD studies in the UK since 2017)
French *Fluent* (Lived, studied, and worked in France for more than 3 years.)
German *Native*

Contact details of referees (both academic and non-academic) available upon request.