

Curriculum Vitae

Name: Robert Tjarko Lange
Date of Birth: 2nd January 1996
Place of Birth: Oldenburg, Germany

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GitHub: <https://github.com/RobertTLange>

Education

- Oct 2017 – Sep 2018 **Imperial College London, London, UK**
Master of Science in Computing (Machine Learning - with Distinction)
Thesis: „Action Grammars: A Grammar Induction-Based Method for Learning Temporally-Extended Actions“ (Distinguished - 91/100); Supervision: A. Faisal
- Sep 2016 – July 2017 **Barcelona Graduate School of Economics (UPF/UAB), Barcelona, Spain**
Master of Science in Data Science (GPA: 9.04/10.00 - Ranked 2nd out of 25)
Thesis: „Randomized Numerical Linear Algebra for GLMs with Big Datasets“ (10.0 out of 10.0); Supervision: O. Papaspiliopoulos (UPF) and I. Kosmidis (UCL)
- Oct 2012 – Feb 2016 **University of Cologne, Cologne, Germany**
Bachelor of Science in Economics (GPA: 1.4/1.0 - Top 5% of Cohort)
Thesis: “The Impact of Skilled-Worker Immigration on the Diffusion of New Technologies” (1.0/1.0); Supervision: S. Prantl
- Sep 2005 – Jun 2012 **Ernst-Mach-Gymnasium, Hürth, Germany**
A-levels (GPA: 1.4/1.0) being 16 years old - Shortening 2nd, 9th, 10th Grade

Professional Experience

- Oct 2018 – **Einstein Center for Neuroscience, Berlin, Germany**
Paid lab rotations/internships in neuroscience research. Collaborators:
1. Prof. F. Blankenburg: EEG Study on Mismatch-Negativity in Somatos. Cortex
2. Prof. H. Sprekeler: Multi-Agent Reinforcement Learning for Complex Systems
3. Prof. M. Larkum: To be determined
- Apr 2017 – Jul 2017 **Accenture Analytics Innovation Center, Barcelona, Spain**
Practicum as part of BGSE Master’s. Contributed to the following projects:
 - *Machine Vision: OCR using OpenCV and CNNs built in Keras/TensorFlow*
 - *Robotics: Prototyped Application for the „Autonomous Deep Learning Robot“*
 - *Natural Language Processing: Chatbot Application for Telegram and Slack*
- Mar 2014 – Mar 2016 **Center for Macroeconomic Research, University of Cologne, Cologne, Germany**
Student research assistant to Prof. H. Braun, Ph.D. and Prof. A. Ludwig
Research on a project focussing on the interaction of retirement and unemployment insurance systems, their incentives and potential moral hazard problems. Data Analysis using R and Stata – Data Sets: PSID, HRS and CPS
- Jun 2013 – Aug 2013 **InfraServ GmbH & Co. Knapsack KG, Hürth, Germany**
Human Resources and Marketing (Internship)

Teaching Experience

- Apr 2015 – Feb 2016 **Center for Macroeconomic Research, University of Cologne, Cologne, Germany**
Teaching Assistant “Introductory Macroeconomics” (Undergraduate Level), Prof. Dr Peter Funk and Prof. Helge Braun, Ph.D.

Skills

Languages	German <i>Mother tongue</i>	Italian <i>Basic (A1)</i>	English <i>Fluent (C1)</i> <i>Toefl-iBt: 111/120</i>	Spanish <i>Basic (A1)</i>
IT/Computing	Microsoft Office, LaTeX – <i>advanced knowledge</i> Python, R, MySQL, Stata – <i>advanced knowledge</i> Amazon Web Services, IBM Watson – <i>intermediate knowledge</i>			

Scholarships and Awards

- Oct 2018 **Best (Applied) MAC/MRes/Specialism Project, Sponsored by Winton Capital (600£) at Imperial College London - Department of Computing**
(Price Winning Distinguished Project: <http://www.imperial.ac.uk/computing/prospective-students/distinguished-projects/pg-prizes/>)
- Aug 2017 **Publication of Master's Thesis on UPF/UAB public repositories**
(<http://hdl.handle.net/10230/33513>)
- Sep 2016 **Award of 50% tuition fee waiver by the BGSE (UPF/UAB) faculty (9000€)**
- Jun 2014 **Dean's Award of the University of Cologne**
Award due to being part of best 10% students that study at the WiSo faculty
- Dec 2012 – Sep 2018 **German National Academic Foundation (www.studienstiftung.de)**
"Studienstiftung des deutschen Volkes" - Scholarship holder

Projects

- Feb 2017 – **Hidden Markov Models (HMM) for Stochastic Volatility**
Stochastic volatility model which describes the volatility process as a latent state. Dynamics in the time series are inferred by utilizing a HMM which allows identification via Sequential Monte Carlo. Code written in R and C to speed up sampling. (https://github.com/RobertTLange/StochVol_HMM)
- Sep 2016 – **UNHCR IOM - Migrant Death Report/News Filter**
Built a Python application that collects migrant death reports from Google News/ Twitter feeds and classifies them by credibility. Models range from basic n-gram Naive Bayes text-classifiers to a Tree-Structured GRU RNN built on MXNet with pre-trained multi-lingual word embeddings. (<https://github.com/migrantnewsfilter>)

Further Education

- Sep 2017 **Universitat Pompeu Fabra, Barcelona, Spain**
ESSIR 2017 - 11th European Summer School in Information Retrieval
- Aug 2017 **École Polytechnique, Paris, France**
DS³ - Data Science Summer School organized by the Data Science Initiative Participated in the Poster Sessions: „RandNLA for GLMs with Big Datasets“
- Aug 2017 **German National Academic Foundation, Rot an der Rot, Germany**
Summer Workshop on Cognitive Neuroscience and the „Free-Energy Principle“ Organized by Prof. Felix Blankenburg and Prof. Dirk Ostwald
- Aug 2016 **London School of Economics, London, UK**
Methods Summer Programme – „Real Analysis“ taught by Dr Elini Katirtzoglou
- June - July 2016 **Barcelona Graduate School of Economics (UPF/UAB), Barcelona, Spain**
Barcelona GSE Summer School 2016: “Bayesian Time Series Methods: Introductory” - G. Koop; „Data Science” - A. Karatzoglou & H. Stojic
- Aug 2015 **London School of Economics, London, UK**
Methods Summer Programme – “Intermediate Econometrics” C. Dougherty

Social Commitment

- Sep 2016 – July 2017 **Editor-in-Chief of Barcelona GSE Data Science Student Blog**
(<https://gsedatascience.wordpress.com/author/roberttlange/>)
- Apr 2013 – Jul 2013 **FIB – Studentisches Forum für Integration und Bildung, Cologne, Germany**
(<http://www.fib-koeln.de>) - Help and support for children with weak social background / history of immigration

Further Interests

- Jan 2018 – Sep 2018 **Part of Advanced Data Science Team at ICL Data Science Society**
- 2016 – **Member of “Kölnischer Kunstverein” (Cologne Art Society)**
- 2013 – **Member of “Freunde des Wallraf-Richartz-Museum und des Museums Ludwig e.V.” (Art society that promotes the art scene in Cologne)**
- 2011 – **Member of “Mensa in Deutschland e.V.” (Mensa in Germany)**
- Feb 2008 **Participation in the “Magic: The Gathering” Pro Tour in San Diego**

References (Available upon request)
