LEON LANG

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EDUCATION

PhD Student | *Computational Science and Machine Learning*　　09/2020 – 08/2024
University of Amsterdam　　Amsterdam, Netherlands
- Project at the intersection of deep learning, causality, and information theory
- Goal: to find useful notions of higher-order and causal interactions between random variables and the application in deep representation learning

Master of Science | *Artificial Intelligence*　　09/2018 – 08/2020
University of Amsterdam　　Amsterdam, Netherlands
- GPA: 9.34/10, Cum Laude
- Thesis: A Wigner-Eckart Theorem for Steerable Kernels of General Compact Groups (grade: 9.5; only one other AI students reached this grade in 2019/20)

Master of Science | *Mathematics*　　10/2015 – 10/2017
University of Bonn　　Bonn, Germany
- GPA: 1.0, with distinction. German grading scale with 1.0 as the best grade
- Thesis: The Asymptotic Behavior of Auslander-Reiten Translations (grade: 1.0)

Bachelor of Science | *Mathematics*　　10/2012 – 08/2015
University of Heidelberg　　Heidelberg, Germany
- GPA: 1.1. German grading scale with 1.0 as the best grade
- Thesis: The Category Equivalence between Finite Fans and Normal Separated Toric Varieties (grade: 1.0)

Prestudies | *Mathematics, Calculus I*　　10/2011 – 03/2012
University of Würzburg　　Würzburg, Germany
- A program that allows talented high school students to already study at university

High School　　09/2004 – 06/2012
Balthasar-Neumann-Gymnasium　　Marktheidenfeld, Germany
- GPA: 1.2. German grading scale with 1.0 as the best grade
- Final exams: mathematics, German, English, physics, geography

WORK EXPERIENCE

Data Analytics Intern | *CRM Analytics for Telekom AG*　　03/2018 – 07/2018
Detecon International GmbH　　Cologne, Germany

Software Assistant | *Software Development in Java and C# for BMW*　　11/2017 – 01/2018
QAware GmbH　　Munich, Germany

PUBLICATIONS

Leon Lang, Maurice Weiler. *A Wigner-Eckart Theorem for Group Equivariant Convolution Kernels*.
In *International Conference on Learning Representations (ICLR)*, 2021.
- Top 2% of submitted papers in terms of average review score

Benjamin Kolb, **Leon Lang** et al. *Learning to Request Guidance in Emergent Communication*.
In *EMNLP Workshop LANTERN*, 2019.
- Shared first author together with Benjamin Kolb

Conferences and Summer Schools

International Conference on Learning Representations (ICLR) — 05/2021
Poster presentation on our paper "A Wigner-Eckart Theorem — Virtual
for Group Equivariant Convolution Kernels"

LANTERN Workshop at EMNLP — 11/2019
Remote oral presentation on our paper "Learning to Request Guidance — Hongkong
in Emergent Communication"

Human-aligned AI Summer School — 07/2019
A summer school focused on optimization and decision making — Prague, Czech Republic
- Topics: agent incentives, open-source game theory, machine learning

Honors and Awards

Top of the Class in Deep Learning — 04/2019 – 05/2019
A research-oriented course with roughly 200 students, tied with one other student

Deutschlandstipendium | *Germany Scholarship* — 04/2017 – 09/2017
Scholarship awarded to approximately 0.9% of students at any given time

Bundeswettbewerb Mathematik | *German National Mathematics Competition* — 06/2012
1st prize in the first round of this prestigious mathematics competition

Teaching Experience

Causality | *Teaching Assistant* — 02/2021 – 05/2021
University of Amsterdam — Amsterdam, Netherlands

Machine Learning I | *Teaching Assistant* — 09/2020 – 10/2020
University of Amsterdam — Amsterdam, Netherlands

FACT-AI | *Teaching Assistant* — 01/2020 – 02/2020
University of Amsterdam — Amsterdam, Netherlands
- Supervising seven teams of four students each
  for a reproducibility research study

Deep Learning | *Teaching Assistant* — 11/2019 – 12/2019
University of Amsterdam — Amsterdam, Netherlands

Topology I | *Teaching Assistant* — 10/2016 – 03/2017
University of Bonn — Bonn, Germany

Calculus for CS students | *Teaching Assistant* — 04/2016 – 09/2016
University of Bonn — Bonn, Germany

Linear Algebra I | *Teaching Assistant* — 10/2013 – 03/2014
University of Heidelberg — Heidelberg, Germany

Extracurricular Activities

Main Organizer and Co-Founder | *AI Safety Student Reading Group* — 09/2018 – 07/2020
University of Amsterdam — Amsterdam, Netherlands
- Monthly discussion meetups with approximately 10 students on papers
  about different aspects of technical AI safety research

Main Organizer and Co-Founder | *Effective Altruism Student Group* — 09/2016 – 08/2017
University of Bonn — Bonn, Germany
- Effective Altruism is a social movement and academic field investigating
  the most impactful ways to improve the world
- In the student group, we organized discussion meetups, talks by experts,
  and career workshops

Skills

Languages: German (Native), English (Fluent)
Programming: Python (NumPy, Matplotlib, PyTorch), Java, C#, Matlab, SQL
Document Creation: LaTex