

Gunnar König

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EDUCATION

University of Tübingen 2023 – now
PostDoc with Ulrike von Luxburg

LMU Munich, Munich Center for Machine Learning (MCML) 2019 – 2023
PhD Student

- **Thesis:** If Interpretability is the Answer, What is the Question? – A Causal Perspective
- **Supervisors:** Moritz Grosse-Wentrup (University of Vienna), Bernd Bischl (LMU Munich)

University of Vienna 2019 – 2023
Affiliated Researcher

University of Warwick 2021
Affiliation for Data Science for Social Good Summer School

LMU Munich 2016 – 2018
ESG M.Sc. Data Science ø1.2

- **Thesis:** Causal Inference in Calcium Imaging
- **Supervisor:** Moritz Grosse-Wentrup

TU Munich 2015 – 2016
Courses from B.Sc. Mathematics

TU Munich 2012 – 2016
B.Sc. Information Systems ø1.6

- **Thesis:** Online Classification with Adaptive Sparse Grid Kernels
- **Supervisor:** Valeriy Khakhutskyy, Hans-Joachim Bungartz

École Polytechnique - Université de Montréal 2015
Exchange semester

Friedrich-List-Gymnasium Reutlingen 2012
Abitur ø1.0

WORK EXPERIENCE

Freelancer 2016 – 2018
Data Scientist Munich, Singapore

Siemens 2015 – 2016
Werkstudent Data Science Munich

PUBLICATIONS

Improvement-Focused Causal Recourse (ICR) 2023
G. König, T. Freiesleben, M. Grosse-Wentrup AAAI 2023

Efficient SAGE Estimation via Causal Structure Learning 2023
C. Luther, G. König*, M. Grosse-Wentrup* AISTATS 2023

Scientific Inference With Interpretable Machine Learning <i>T. Freiesleben, G. König, C. Molnar, Tejero-Cantero, A.</i>	2022 under review
Relating the PDP and PFI to the Data Generating Process <i>C. Molnar*, T. Freiesleben*, G. König* et al.</i>	2022 xAI 2023
Model-agnostic Feature Importance and Effects with Dependent Features <i>C. Molnar, G. König et al.</i>	2022 DAMI
Relative Feature Importance <i>G. König, C. Molnar, B. Bischl, M. Grosse-Wentrup</i>	2021 ICPR 2021
A Causal Perspective on Meaningful and Robust Algorithmic Recourse <i>G. König, T. Freiesleben, M. Grosse-Wentrup</i>	2021 ICML Workshop on Recourse
General Pitfalls of Model-agnostic IML Methods <i>C. Molnar, G. König et al.</i>	2021 ICML xxAI Workshop: Revised and Extended Papers, Springer
Pitfalls to Avoid When Interpreting Machine Learning Model <i>C. Molnar, G. König et al.</i>	2020 ICML xxAI Workshop
A Causal Perspective on Challenges for AI in Precision Medicine <i>G. König, M. Grosse-Wentrup</i>	2019 PMBC

TEACHING

Lecture Multivariate Statistics <i>Exam Preparation</i>	22/23 LMU Statistics Department
Seminar Causality <i>Lecturer</i>	22 LMU Statistics Department
Lecture Advanced Machine Learning <i>Lecturer</i>	22 LMU Statistics Department
Seminar Explainable AI <i>Lecturer</i>	21/22 LMU Munich Center for Mathematical Philosophy, LMU Statistics Department
Seminar Causality <i>Lecturer</i>	21 LMU Statistics Department
Lecture Interpretable Machine Learning <i>Course Materials</i>	20/21 LMU Statistics Department
Seminar Ethics in AI <i>Lecturer</i>	20/21 LMU Statistics Department
Seminar Current Research in Data Science <i>Lecturer</i>	20/21 LMU Statistics Department
Seminar Causality <i>Lecturer</i>	20 LMU Statistics Department
Seminar Limitations of Interpretable ML <i>Lecturer</i>	19/20 LMU Statistics Department

SOCIAL OUTREACH

Data Science for Social Good Summer School

Team Member

2021
Munich, Warwick

ThinkTech g.e.V.

Vice President

2019 – 2021
Munich

ThinkTech g.e.V.

Team Member

2018 – now
Munich

WeRePack (werepack.org)

Team Member

2017 - 2021
Munich