

Manuel GLÖCKLER

PERSONAL DATA

PLACE AND DATE OF BIRTH: Laichingen, Germany | 29 May 1998
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RESEARCH INTERESTS

MACHINE LEARNING	Scalable Bayesian Inference and probabilistic models. Likelihood-free (and related) inference techniques. Uncertainty quantification, calibration and robustness in deep probabilistic models.
LIFE SCIENCE	Medical, immunological, biological and neuroscientific data analysis and modeling techniques.

WORK EXPERIENCE

FEB 2022	Research assistant
SEP 2020	<i>University Tübingen, Computational Systems Biology, Junior Prof. Dr. Andreas Dräger.</i> Analysis of microbiotic interaction in the human nasal microbiome through genome-scale modeling and linear programming, supervised by Dr. Reihaneh Mostolizadeh.
FEB 2019	Student assistant
OCT 2019	<i>University Tübingen, Theory of Machine Learning Group, Prof. Dr. Ulrike von Luxburg.</i> Teaching assistant for the undergraduate lecture "Algorithms". I gave tutorial sessions and corrected exercise sheet as well as exams.

EDUCATION

NOW	PHD student at the International Max-Planck Research School for Intelligent Systems (IMPRS-IS)
APR 2022	<i>University Tübingen, Machine Learning in Science, Prof. Dr. Jakob Macke.</i> Uncertainty calibration and adversarial robustness of approximate amortized inference or conditional density estimation algorithms. With potential applications within the medical domain.
MAR 2022	Master of Science in BIOINFORMATICS, University Tübingen
OCT 2019	Strong focus in machine learning methods and theory including probabilistic, statistical and deep machine learning, as well as its applications in life sciences Graduation with distinction. Thesis: "Variational methods for simulation-based inference" Supervisor: JAKOB MACKE AVERAGE GRADE 1.15 (3.9 GPA equivalent) Detailed List of Courses
SEP 2019	Bachelor's Degree in BIOINFORMATICS, University Tübingen
OCT 2016	Graduation with distinction. Thesis: "The landscapes of CD8+ T cell immunogenicity from a self-tolerance based perspective in sequence space" Supervisor: Léon KUCHENBECKER AVERAGE GRADE 1.31 (3.7 GPA equivalent) Detailed List of Courses
JULY 2016	A-LEVELS, Joachim-Hahn-Gymnasium, Blaubeuren, Germany Final Grade: 2.1 (3.0 GPA equivalent)

SELECTED PUBLICATIONS

2022 | Variational methods for simulation-based inference [[arxiv](#)].
Manuel Glöckler, Michael Deistler, Jakob H. Macke.
Accepted as spotlight for ICLR 2022.

FURTHER ACADEMIC EXPERIENCE

CONFERENCES: Spotlight presentation at ICLR 2022 [[openreview](#)].
SUMMER SCHOOLS: Participation at the Machine Learning Summer School 2021 ([MLSS](#)).
OTHER WORK: NCMW: A Python Package to Analyze Metabolic Interactions in the Nasal Microbiome ([frontiers](#)).
"Workflow for modeling microbial community interactions applied to *Dolosigranulum pigrum* and *Staphylococcus aureus* within the human nose" accepted as short presentation on [ISMB2021](#) (second author).

PROGRAMMING LANGUAGES

PYTHON : **Advanced skills:** Especially experienced in machine learning libraries as pytorch or sklearn through diverse university projects including my masters thesis. Further experience with numerical optimization packages.
JAVA : **Intermediate skills:** Several university projects in Java.
CUDA/C/C++ : **Basic skills:** University courses and self studies.

LANGUAGES

GERMAN: Mothertongue
ENGLISH: Proficient
FRENCH: B1 level

FURTHER COMPUTER SKILLS

L^AT_EX : Writing and presentation.
BIO. SOFTWARE : Basic experience with several programs e.g. DIAMOND for sequence alignment, MEGAN for phylogenetic analysis.
CLOUD COMPUTING : Remote computing on Linux servers e.g. using SLURM.

Master of Science in BIOINFORMATICS

Grades

COURSE	GRADE	ECTS
Sequence Bioinformatics	1.0	9
Structure and Systems Bioinformatics	1.0	9
Algorithms in Bioinformatics	1.0	3
Bioinformatics Tools	1.0	3
Cheminformatics	1.0	6
Phylogeny and Evolution	1.0	6
Medical Data Science	1.3	6
Bioinformatics Tools	1.0	3
Massively Parallel Computing V	1.0	6
Probabilistic Machine Learning	1.0	9
Advanced Probabilistic Machine Learning - Modeling and Applications	1.7	6
Advanced Artificial Neural Networks	1.7	6
Mathematics for Machine Learning*	1.7	6(9)
Statistical Machine Learning*	(2.0)	(9)
Time Series*	(3.0)	(6)
Introduction to Computational Neuroscience	1.0	6
Computational Ecology	1.0	6
Advance Immunology	2.0	3
Astrobiology: life in extreme environments	1.7	3
Master thesis	1.0	30
	Total	120 (138)
	GRADE	1.15

A star (*) indicates that the course was taken as additional qualification (e.g. due to personal interest) or can only be partially accounted due to examination regulations

Undergraduate Degree in BIOINFORMATICS

Grades

ORIGINAL COURSE TITLE (GER)	COURSE (ENG)	GRADE	ECTS
Informatik I	Computer Science I	1.0	9
Informatik II	Computer Science II	1.0	9
Theoretische Informatik	Theoretical computer science	1.0	9
Algorithmen	Algorithms	1.0	9
Teamprojekt	Teamproject	1.0	9
Grundlagen des maschinellen Lernens	Basics of machine learning	1.3	6
Mathematik I	Math I	1.0	9
Mathematik II	Math II	2.0	9
Mathematik III	Math III	1.7	9
Stochastik	Stochastic	2.0	6
Numerik für Mathematiker (*)	Numerics for Mathematicians	(3.3)	9
Einführung in die Bioinformatik	Introduction to Bioinformatics	1.0	3
Grundlagen der Bioinformatik	Basis of Bioinformatics	1.0	3

Grundlagen der Bioinformatik (SEM)	Grundlagen der Bioinformatics Seminar	1.0	3
Microbiome Analysis	Microbiome Analysis	1.3	6
Structure-Based Drug Design	Structure-Based Drug Design	1.0	6
BMZ (Biomoleküle und Zelle)	Biomolecules and cells	1.3	6
Mol. Biol. I (Zellbiologie und Genetik)	Cell Biology and Genetics	2.0	6
Mol. Biol. II (Mikrobiologie)	Microbiology	1.7	3
Einführung in die Immunologie	Introduction to Immunology	1.3	3
Chemie I	Chemistry I	2.0	9
Allg. Biochemie	General biochemistry	1.7	6
Tierphysiologie (Neurobiologie)	Animal Physiology (Neurobiology)	1.0	9
Physik. Chemie (Chemie II)	Physical chemistry	1.7	6
Bachelorarbeit	Bachelor thesis	1.3	15
		Total	180
		GRADE	1.31

A star (*) indicates that the course was taken as "Studium Professional", hence does not account for the overall grade.