

# GUY MOSS

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 [Guy Moss](#) |  [gmoss13](#) |  [guymoss13](#)

## OBJECTIVE

I am a final-year doctoral candidate at the International Max Planck Research School for Intelligent Systems in Tübingen, Germany, advised by [Prof. Jakob Macke](#). I am primarily interested in developing and applying machine learning methods to solve complex, real-world problems, in particular in the analysis and improvement of computational simulators. I am looking for industry positions that will leverage my expertise in probabilistic machine learning to tackle meaningful and challenging problems.

## EDUCATION

- **University of Tübingen, International Max Planck Research School for Intelligent Systems** 10/2021 - Present  
*Doctoral Candidate* Tübingen, Germany
  - Simulation-based inference methodologies and applications in geoscience
- **University of Warwick** 10/2017 - 07/2021  
*Bachelor and Master, Mathematics and Physics* Warwick, United Kingdom
  - First Class with Honours. Weighted mean mark - 86.2%
  - Won Physics department Pettifer Award and Excellence Award in the fourth year graduating MMathPhys class
- **Chesham Grammar School** 2011 - 2017  
*A levels* Chesham, United Kingdom
  - Achieved A\* in all subjects, American GPA equivalent 4.0/4.0

## EXPERIENCE


- **Teaching and Supervision** Tübingen, Germany  
*University of Tübingen* 10/2021 - Present
  - (Primary) teaching assistant of graduate-level courses, including Probabilistic Machine Learning and Data Literacy.
  - Supervision and mentoring of several Master thesis students
- **Research Internship** Warwick, United Kingdom  
*University of Warwick* 07/2019 - 09/2019
  - Created data analysis pipeline for astronomical data of acoustic oscillations in sun-like stars
  - Performed MCMC inference in astronomical models

## SELECTED PUBLICATIONS

C=CONFERENCE, J=JOURNAL, S=IN SUBMISSION

- [C] **Guy Moss & Julius Vetter et al. (2024), Sourcerer: Sample-Based Maximum Entropy Source Distribution Estimation.** In *NeurIPS*
- [S] **Guy Moss et al. (2023), Simulation-Based Inference of Surface Accumulation and Basal Melt Rates of an Antarctic Ice Shelf from Isochronal Layers.** Manuscript submitted for publication in *Journal of Geophysical Research: Earth Surface*.
- [J] Sebastian Bischoff, [...], **Guy Moss et al. (2024) A Practical Guide to Statistical Distances for Evaluating Generative Models in Science.** In *Transactions of Machine Learning Research (TMLR)*.

## SOFTWARE PACKAGES

- **sbi: a PyTorch package for simulation-based inference** 2022 - present  
*Simulation-based inference is the process of finding parameters of a simulator from observations.* 
  - Role: Core contributor since 2022
  - Stats: Affiliated with [NumFocus](#), 570 stars on Github, 3000 monthly downloads on PyPI

## TALKS

- **European Geoscience Union General Assembly** 2023  
*Determining Basal Mass Balance of Ice Shelves Using Simulation-Based Inference* Vienna, Austria
- **PHYSTAT-SBI - Simulation Based Inference in Fundamental Physics** 2024  
*Sourcerer: Sample-based Maximum Entropy Source Distribution Estimation* Max Planck Institute for Physics, Munich, Germany

## SKILLS

- **Machine Learning:** Density Estimation, Uncertainty Quantification, Generative Modeling
- **Programming Languages:** Python, Java, MATLAB
- **Languages:** English (Native), Hebrew (Native), Russian (Proficient), German (Conversational)
- **Fun:** International level chess player (Fide rating: 2163), Hosted radio show on Radio at Warwick (RAW 1251 AM)