Steven Kleinegesse

Personal Data

Place and Date of Birth:	Berlin, Germany | 1 September 1995
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Work Experience

Summer 2015 | Intern at Institute for Astronomy, Edinburgh

Investigated the *Missing Baryons Problem* using an adaptive-mesh refinement code; the aim was to monitor the evolution of the Universe's baryon content with different baryon phases. Performed analysis of high-end computational simulations, both graphically and numerically.

Summer 2014 | Intern at the University of Surrey, Guildford

Modelled strong gravitational lenses using a non-parametric software. Investigated cases of unusual mass distributions and compared them to data of real cases that were producing anomalous lensing.

Aug 2012 | Intern at Institute for Photonic Technologies, Jena, Germany

Introduction to various research areas, including nanotechnology, cryogenics and semiconductors. Focus was on measuring and testing semiconductor wafers for terahertz-imaging to be used in spacecrafts.

Education

2018 – **PhD in Data Science** at University of Edinburgh, UK
Current work focusses on applying statistical methods and machine-learning to Bayesian experimental design, which is concerned about where to collect data in scientific experiments. In this context, I am particularly interested in efficient optimisation methods, e.g. Bayesian Optimisation, and likelihood-free Bayesian inference. Besides research, I tutor probabilistic modelling and reasoning and act as a teaching assistant for some MSc projects.

2017 – 2018 **MSc by Research in Data Science** at University of Edinburgh, UK
Graduated with a First Class degree. Courses covered machine-learning and pattern recognition, practical applications of deep learning and several data science projects. The thesis focussed on Bayesian experimental design, i.e. where to collect data in scientific experiments, for intractable models. This research resulted in a publication at the AISTATS 2019 conference.

2013 – 2017 **MSci in Physics** at Imperial College London, UK
Graduated with a First Class degree. Besides fundamental physics, courses included Mathematical Methods, Statistics, Computational Physics and Complexity and Networks. Final year MSci project focussed on classifying energy signals from a particle detector with state-of-the-art Deep Learning methods.

2011 – 2013 **International Baccalaureate** at Dallam School, Milnthorpe, UK
Received Bilingual IB Diploma with 42/45 points. Awarded prize for outstanding performance in Chemistry and Physics.

Publications

Kleinegesse, S. and Gutmann, M., Efficient Bayesian Experimental Design for Simulator Models. Accepted at AISTATS 2019. *ArXiv preprint: https://arxiv.org/abs/1810.09912*, 2019.

Williams, J., **Kleinegesse, S.**, Comanescu, R., Radu, O., Recognizing emotions in video using multimodal DNN feature fusion. *Proceedings of Grand Challenge and Workshop on Human Multimodal Language (Challenge-HML)*, pp. 11–19. Association for Computational Linguistics, 2018.

Scholarships

Summer 2014 Royal Astronomical Society Scholarship (£1,200)

Languages

English: Fluent
German: Mothertongue

Computer Skills

Basic Knowledge:	Microsoft Office, C/C++
Intermediate Knowledge:	Linux, LaTeX, Matlab, R
Advanced Knowledge:	Python, including Pandas, TensorFlow and PyTorch