



Marian Biermann

DATA SCIENTIST · MASTER OF SCIENCE IN PHYSICS

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“The further back I look, the further forward I can see.”
- Winston Churchill

Skills

Data Science-Skills

Forecasting, Classification, Linear Regression, Logistic Regression, Random Forest, Boosting, Linear Optimization, k-Nearest-Neighbours, Neural Networks, Route Optimization, Deep Learning

Technical Skills

Python, Scikit-learn, PyTorch, R, Data Version Control, Git, Markdown, LaTeX, Mathematica, SQL, NoSQL

Languages

German, English

Education

Bielefeld University

Bielefeld, Germany

M.Sc. IN PHYSIK (GRADE: 1.6)

Oct. 2016 - March 2019

- Title of the Master thesis: *A Detailed Look at Estimators for the Two-Point Correlation Function, their Variance and a Verification of the TreeCorr-Algorithm with LoTSS Data* (Grade: 1.1)
Review of multiple estimators for the 2pt-correlation-function, focused on their variance and bias
Development of a brute-force-algorithm for computing the correlation function and its variance
Verification of the tree-based algorithm *TreeCorr* by comparison to the brute-force-algorithm

Bielefeld University

Bielefeld, Germany

B.Sc. IN PHYSIK

Oct. 2013 - Oct. 2016

- Title of the Bachelor thesis: *Shielding the LOFAR-Station Norderstedt*
Theoretical conception and practical implementation of a shielding against digital radio of the station Norderstedt of the radio telescope LOFAR
Evaluation of different shielding and the effectiveness concerning various frequency blocks

Gymnasium am Waldhof

Bielefeld, Germany

ABITUR

2005 - 2013

- Advanced courses:: Math and Physics

Work Experience

Wetphalia Datalab

Münster, Germany

DATA SCIENTIST

Nov. 2019 - Present

- Automatization of the purchasing plans of fashion stores by forecasting sales and optimization of strategies of goods receiving and stock levels
- Optimization of transportation networks and customer assignments to distribution centres for logistics providers
- Optimization of routes of daily deliveries and transportations, while respecting restrictions and constraints provided by the customer, including optimal strategies during peak times

Wetphalia Datalab

Münster, Germany

DATA SCIENCE INTERN

Aug. 2019 - Nov. 2019

- Intern in Data Science/Data Analytics
- Working on projects in Data Analytics as a Service: Data preparation, collection of external data, data analysis and forecasting

Bielefeld University

Bielefeld, Germany

RESEARCH ASSISTANT

Apr. 2019 - July 2019

- Author of the scientific paper *Finite Size Effects of Random and Mock Samples on Variance and Bias of Two-point Correlation Function Estimators*, estimated publication date: Fall 2020
- Co-Author of the scientific paper *One- and Two-point Source Statistics from the LOFAR Two-metre Sky Survey First Data Release*, estimated publication date: Fall 2020 in *Astronomy & Astrophysics*
- Talk about above mentioned topics at the 14th Kosmologietag

Bielefeld University

Bielefeld, Germany

TUTOR

Oct. 2017 - March 2018

- Tutor for theoretical physics

- Further analysis of the data collected during my Bachelor thesis
- In detail: Deriving more detailed theoretical models for comparison with experimental data, using new and different evaluation methods

Publications

SCIENTIFIC PUBLICATIONS

- 2020 **Finite Size Effects of Random and Mock Samples on Variance and Bias of Two-point Correlation Function Estimators (in preparation)**, Biermann & Schwarz
- 2020 **One- and Two-point Source Statistics from the LOFAR Two-metre Sky Survey First Data Release (in preparation, arXiv: 1908.10309)**, Siewert, [...], Biermann et al. *Astronomy & Astrophysics*

Präsentationen & Vorträge

14. Kosmologietag

Bielefeld University, Germany

TALK *Dependence of two-point correlation function estimators on the size of random samples*

May 2019

- Overview of the current state of research
- Introduction of modifications of the data analysis which become necessary because of modern day astronomical observations

Honors

- 2013 **Awarded for excellent achievements in the subject physics**, German Physical Society *Bielefeld, Germany*

Extracurricular Activities

Collegiate Sports Bielefeld University

Bielefeld, Germany

ULTIMATE FRISBEE COACH

Oct. 2016 - Oct. 2019

- Gaining experience dealing with beginners which should be taught basic understanding of tactics and the most important throwing and playing techniques
- New challenges every term because of ever changing participants

TuS Ost Bielefeld

Bielefeld, Germany

PLAYING COACH IN ULTIMATE FRISBEE

Aug. 2016 - Jan. 2020

- Responsible for the team and its development
- Preparation for and participation in german leagues