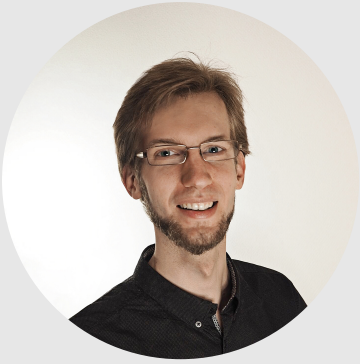

Marco Fink

Physiscist / Data Scientist

23 October 1990

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About me

I put great value in a broad and general knowledge, and try to keep myself educated in a wide range of sciences and arts. I think this is necessary to train independence and critical thinking and to put the narrow theoretical skillsets taught at university to effective and creative use.
In Space science I got involved in complex software projects and learned the importance of clean code and documentation for a team effort from practical experience.

Skills

Physics

Computer Science

Math

Teamwork

Scientific Writing

Game Design⋆1.5 Guitar⋆2 Martial Arts⋆2 Painting⋆2.5 Cooking⋆2.5

(*)[Skills are measured on a logarithmic scale (from 0 - 6) of hours spent learning and applying.]

Interests

Everything that has to do with space, the space industry and widening our understanding of nature and the world around us. More specifically, I am building a skillset of statistical and computational methods to make sense of any type of data and the programming abilities to visualize and automate these analysis processes. From my list of hobbies especially my efforts in video game programming, feed back into my professional skillset.

Education

since 2017 — Ph.D. candidate in astrophysics — Dr.-Karl-Remeis-Sternwarte Bamberg

2014 - 2016 — M.Sc. Physics — FAU & Dr.-Karl-Remeis-Sternwarte Bamberg
Majoring in X-ray astrophysics

2010 - 2014 — B.Sc. Physics — FAU Erlangen-Nürnberg
Specializing in particle, detector and astrophysics

2000 - 2010 — High school — Geschwister-Scholl-Gymnasium Röthenbach
Specializing in mathematics and physics.

Experience

since 2017 — Project Work — eROSITA
eROSITA telemetry preprocessing pipeline

2016-2017 — ESA Internship — ESAC Madrid
At the Gaia calibration team

2015-2016 — Master Thesis — Dr.-Karl-Remeis-Sternwarte Bamberg
Data Analysis of a sample of extragalactic X-ray sources

2013-2016 — Teaching and Research Assistant — FAU & ECAP
Data Analysis, scientific computing, tutorial supervision and observation proposals.

Conferences

2017	Euro-SciPy	Erlangen
2017	XMM-Universe	Rome
2016	XMM-Universe	Madrid
2014	Deutsche Astronomische Gesellschaft	Tübingen

Detailed skills

Languages	German, English (Fluent), Spanish (Basic)
Programming	Object-oriented, Functional and Event-driven; Python, Java, Fortran, C++, Octave, Bash, Lisp
Scientific	Detector physics, Image Processing, Statistical Methods, Optimization, Numerical Methods, Databases
Software	GNU/Linux, LaTeX, SciPy, Git, SQL

My Work

Review

My work so far mostly involved analyzing of astronomical data. For my Master's work, I mainly worked on parralelized scientific computing in our Institute's cluster environment. My experiene gathered at ESA focused on querying and processing large amounts of data from remote databases. Towards the end of the project, I integrated my work into the Java codebase of the Gaia project. At the moment I am working on the telemetry processing pipeline for the planned X-Ray satellite observatory eROSITA (launch in 2018). The pipeline's task will be to sort, check and archive all incoming data from the satellite for the full mission lifetime.