Moritz Korte-Stapff
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Professional Experience

European Central Bank (ECB) *Research Analyst, 9/2017-7/2019*

- Maintained production environment for secure and error-free (i) data reception from all national banks and additional statistical institutes, (ii) data production process within the ECB and (iii) data dissemination to the public facing Statistical Data Warehouse (now part of the ECB Data Portal) of the ECB.
- Built, updated and improved software applications for data production in various programming languages (e.g. Java, Python, Perl). Users throughout the ECB with core user group of $\approx$ 300 people. Main point of contact for ECB users.
- Project team to build the new production environment for big data at the ECB based on technologies including Spark, HBase and Kudu. Gathered user requirements for internal users and built and tested prototypes.

European Space Operations Center (ESA) *Intern, 3/2015-7/2015*

- Research project on time-series analysis for outlier detection for telemetry data. Contributed original ideas and implemented and tested novel algorithms on internal ESA data. Co-author of resulting papers published at SpaceOps conference.
- Due to the success of the project, ESA funded an 800.000€ follow-up project.

Education

- **PhD, Statistics**, University of Michigan (Ann Arbor). *9/2019 - 9/2024*
  - Theory for stochastic processes and random fields with applications to environmental data. Solved an open problem on the smoothness estimation for solutions to certain stochastic partial differential equations.
  - Won the **Outstanding Graduate Student Instructor** award.
  - Ranked 7th best statistics graduate program by U.S. News & World Report.
- **MSc, Mathematics**, University of Copenhagen (GPA: 11.125, -3 - 12, 12 best). *8/2015-8/2017*
- **BSc, Mathematics**, Eberhard Karls Universität Tübingen, (GPA: 2.1, 1 - 6, 1 best). *10/2011-2/2015*

Research Visits & Articles

Visits

- Visiting Researcher, **École Polytechnique**, Centre de Mathématiques Appliquées, (Duration: 06/2023- 9/2023; Supervisor/Collaborator: Prof É. Moulines).

Articles

- *Smoothness Estimation for Whittle-Matérn Fields on closed Riemannian Mannifolds*. Moritz Korte-Stapff, Toni Karvonen, Éric Moulines, https://arxiv.org/pdf/2401.00510.pdf. *Under Review in Stochastic Processes and their Applications*.
- *A functional regression model for heterogeneous BioGeoChemical Argo data in the Southern Ocean*. Moritz Korte-Stapff, Drew Yarger, Stilian Stoev, Tailen Hsing, https://arxiv.org/pdf/2401.00510.pdf. *Under Review in Journal of the Royal Statistical Society, Series C*.
- *On Maximum Likelihood Estimation for Matérn Gaussian Processes on Graphs*. Moritz Korte-Stapff, Tailen Hsing, Stilian Stoev. *In preparation*.
- *Data Mining to Drastically Improve Spacecraft Telemetry Checking*. David Evans, José Martinez, Moritz Korte-Stapff, Attilio Brighenti, Chiara Brighenti and Jacopo Biancat. *In:* Craig Cruzen, Michael Schmidhuber, Young H. Lee, Bangyeop Kim (Eds.) Space Operations: Contributions from the Global Community (pp. 87-115), Springer.

Skills and Hobbies

Programming Languages: `Python` *(Used in PhD Research, at ECB; 5+ years experience)*, `Java` *(ECB, ESA; 2 1/2 years)*, `R` *(PhD research, 5+ years)*, `C++` *(Used to speed up `R` packages)*, `Perl`, `SQL` and Shell scripting *(ECB)*

Languages: German (native), English (near native), French (intermediate), Danish (basic).

Hobbies: Field Hockey, Tennis, Chess. I am a licensed skiing instructor.