CURRICULUM VITAE

Personal Information:

Name	Lucas Kugler
Date of Birth	26.01.1995
Nationality:	German
Mail:	lucas.kugler26@googlemail.com
Currently:	PhD candidate

Research Interests:

Remote Sensing:

- analysis of historical satellite images and aerial images for change detection in 2D and 3D especially using image synthesis for transferable learning across data sets

- leaned methods for 3D reconstructions and processing of Digital Elevation models

Applied mathematics and computational science:

- linear algebra in particular for data transformation, dimensionality reduction, feature engineering and analysis of latent variables

- multivariate statistics in particular using kernel-based methods and deep learning models for segmentation, signal processing and feature clustering in supervised and unsupervised frameworks

Experience:

10/2024 – Today	PhD candidate *Professorship Remote Sensing of Environment at University of Zurich*
01/2021 – 09/2024	Research Associate *Professorship Environmental remote sensing at TU Dresden*
01/2023 – 02/2023	Research Internship *Professorship Spatial Science in Ecology and Environment (CZU Prague)*
09/2019 – 12/2020	Research Assistant *Professorship Environmental Remote sensing at TU Dresden* using Deep Learning and CORONA spy imagery for landcover analysis
10/2016 – 10/2018	Student Assistant *Professorship Astronomy at TU Dresden* Astrometric alignment and calibration of sky imagery using geometric hashing methods

Teaching Experience (self-developed material)

01/2021 –	*Professorship Environmental Remote Sensing at TU Dresden*

today	**Data Analysis in Remote Sensing** (Deep Learning Lectures (6), Model Diagnostics, Decision Trees) + Exercise
04/2023 + 04/2024	*United Nations University Dresden* **CIPSM Workshop – Introduction to Remote Sensing (2 Days Workshop)**
01/2024	*Professorship Environmental Remote Sensing at TU Dresden* **Scientific Work** (Lectures: AI for Scientific Work, Paper Mills & Fake Science, Scientific Presentations)
04/2021 – 08/2022	*Professorship Environmental Remote Sensing at TU Dresden* **Remote Sensing** (Lectures: Image Enhancement, Image Filtering, Classification) + Exercise
10/2016 – 10/2018	*Professorship Astronomy at TU Dresden* **Physics I + II and Spherical Trigonometry** (Exercise preparation)
05/2017 – 08/2018	*Professorship of Geodesy at TU Dresden* **Applied Geodesy** (practical surveying exercises, no self-developed material)

Education:

10/2017 12/2020 Thesis:	**Master Studies Geodesy** *TU Dresden* „Comparison of Deep Learning models for landcover classification using historical CORONA satellite imagery" (with Prof. Matthias Forkel)
10/2014 03/2018 Thesis:	**Bachelor Studies Geodesy & Geoinformation** *TU Dresden* „Calibrating astronomical images using the Gaia DR1 catalogue" (with Dr. Enrico Gerlach)
08/2014	**Allgemeine Hochschulreife (High School)** *Johann-Mathesius-Gymnasium Rochlitz*

Conferences:

04/2025	Talk at EGU Vienna: "Advances in Historical Aerial Image Analysis: Boosting SfM Pipelines with Learned Models"
04/2024	Talk at EGU Vienna: "Examining the Reliability Gap: Insights into Forest Canopy Height Using Evidential Deep Learning"
04/2023	Poster at EGU Vienna: "Harvesting historical spy imagery by evaluating deep learning models for state-wide mapping of land cover changes between 1965-1978"
10/2022	Talk at DGPF Dreiländertagung Dresden: "Landcover classification using CORONA satellite imagery"

Academic Service:

11/2015 – 12/2017	Member of various university committees (e.g. Fakultätsrat, Studienkomission)
11/2015 – 12/2017	Organising several social and networking events for students