

Nico WINKEL



PROFILE

I am a data scientist and astrophysicist with over 4 years of experience in algorithms, modeling, and analyzing large-scale imaging and spectroscopic data. I specialize in statistical modeling and advanced analytics, with a strong Python programming background. I also have expertise in cloud-based data analysis and deployment. My work includes building end-to-end data pipelines and collaborating on cross-functional projects. I'm interested in cutting-edge technologies and programming.

CONTACT DETAILS

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SKILLS

Programming	Python (NumPy, Pandas, Scikit-learn, SciPy, Astropy), Bash, IRAF, PyRAF
Tools & Frameworks	SQL, Git, Jupyter, LaTeX, Adobe, High-Performance Computing, Time Series Analysis
Cloud & ML	Cloud-based data analysis, model deployment, and operation, applying machine learning techniques to real-world problems.
Data Visualization	Matplotlib, Seaborn, Plotly, DS9, QFitsView, TOPCAT.
Project Management	Agile project management, cross-functional team collaboration, and stakeholder engagement.
Languages	German (native), English (C1), French (A1)

EXPERIENCE

Data Scientist Data Science <i>OmegaLambdaTec GmbH</i>	07/2025 — now <i>Garching, Germany</i>
<ul style="list-style-type: none">• Develop and deploy data-driven models for industrial clients, with applications in energy forecasting, predictive maintenance, and cost optimization.• Translate real-world problems into AI-powered solutions by combining scientific methods, domain knowledge, and OmegaLambdaTec's proprietary algorithm libraries.• Collaborate with interdisciplinary teams to design scalable Smart Data solutions that support decision-making in future-oriented industries such as energy and mobility.	

Postdoctoral Researcher Astrophysics <i>Max Planck Institute for Astronomy</i>	11/2024 — 02/2025 <i>Heidelberg, Germany</i>
<ul style="list-style-type: none">• Led a major observational programs (>200h) at ESO's VLT, managing all phases from planning to data acquisition.• Published key research as lead and co-investigator while fostering collaborative partnerships.	

Doctoral Researcher Astrophysics <i>Max Planck Institute for Astronomy</i>	01/2020 — 10/2024 <i>Heidelberg, Germany</i>
<ul style="list-style-type: none">• Analyzed data from NASA's <i>Hubble</i> and <i>JWST</i> space telescopes; developed calibration pipelines for scientific instruments.• Led the analysis and modelling of large-scale observational datasets (TB-scale), using Python and custom pipelines for data calibration and scientific inference.• Designed and developed Siena^{3D}, a specialized software tool for complex 3D data processing and visualization.• Collaborated on international research projects; presented findings at global conferences and co-authored 15 peer-reviewed publications.	

Student Assistant Physics <i>University of Heidelberg</i>	10/2017 — 09/2019 <i>Heidelberg, Germany</i>
<ul style="list-style-type: none">• Supported STEM students in using scientific techniques and developing independent learning methods; support for academic performance.	

DEGREES

Dr. rer. nat. Astronomy <i>magna cum laude</i> <i>University of Heidelberg, Germany</i>	01/2020 — 10/2024
Master of Science in Physics <i>University of Heidelberg, Germany</i>	10/2018 — 09/2020
Bachelor of Science in Physics <i>University of Heidelberg, Germany</i>	10/2014 — 09/2018

COMMUNITY SERVICE

Referee for science journal Astronomy & Astrophysics	02/2023 — now
Teaching Advanced Physics at University of Heidelberg	04/2021 — 08/2021
Private Tutor for Studentenring in Heidelberg	02/2018 — 11/2019