


Haris Katsikogiannis

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Check for updates 

+30 6980754877 |  haris.katsik@gmail.com |  [in Haris Katsikogiannis](#) |  [harry353](#) |  [harry353.github.io](#)
Leiden, Netherlands

OBJECTIVE

Astronomer with a background in research, pivoting into industry positions. Seeking a role in Python programming or general data science where I can apply my skills in statistical modeling and artificial intelligence. Especially interested in classical machine learning techniques and large language models. Available to start immediately and willing to relocate for on-site positions.

EDUCATION

LEIDEN UNIVERSITY

MSc ASTRONOMY AND RESEARCH Sep 2023 – Jul 2025 | Grade: 7.85/10

NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS

BSc PHYSICS Sep 2016 – Mar 2022 | Grade: 7.2/10

SKILLS

Tools & Software: Git • Linux • Blender • Flask • Docker • \LaTeX

Programming (hard skills): Python • SQL • Matlab • Mathematica

Programming (working knowledge): C • C++ • HTML • JavaScript

Libraries: NumPy • SciPy • Pandas • Matplotlib • Scikit-learn • PyTorch • Jupyter

Cloud & MLOps: GitHub Actions • CI/CD

Languages: Greek (native) • English (IELTS 8.5/9) • German (B1) • Italian (currently learning)

SOFTWARE PROJECTS

END-TO-END ML PIPELINE (PROJECTBZARRE) | FORECASTING SYSTEM WITH CI/CD, AUTOMATED BATCH INFERENCE, AND PROBABILISTIC MODELING

- Covers the full data lifecycle: automated ingestion, preprocessing, feature engineering, probabilistic inference, and visualization of space weather data.
- Scheduled batch inference via **GitHub Actions** ensures reproducible outputs and version-controlled artifacts.

OPEN-SOURCE DECONVOLUTION LIBRARY (CLEANLAB) | MODULAR PYTHON PACKAGE FOR SIGNAL RECONSTRUCTION WITH PARALLEL COMPUTATION AND CONFIGURABLE PEAK-DETECTION

- Pluggable algorithm strategies allow users to swap deconvolution methods without changing the pipeline; configurable gain and peak-detection parameters for fine-grained control.

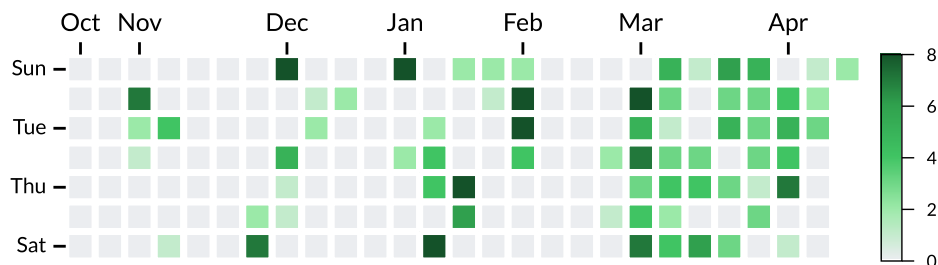
DEEP LEARNING IMAGE RECONSTRUCTION FRAMEWORK (BLURPROOF) | U-NET TRAINED ON SYNTHETIC DATA WITH ON-THE-FLY PSF SIMULATION (IN DEVELOPMENT)

- Training data is generated on-the-fly via **PSF simulation** on synthetically convolved images, removing the need for a fixed dataset and enabling continuous performance monitoring.

MULTI-DIMENSIONAL DATA VISUALIZATION TOOL (CUBEFIG) | CLIENT-SERVER WEB APP FOR INTERACTIVE HIGH-DIMENSIONAL DATA ANALYSIS

- Heavy numerical computation handled in **C** for performance, exposed via a **Python** backend with server-side Matplotlib rendering and a **JavaScript** frontend.

6 MONTH GITHUB CONTRIBUTIONS (300 IN THE LAST YEAR)



VOLUNTEERING

2MINUTE SCIENCE | SCIENCE COMMUNICATION VOLUNTEER 2022 – Present | Greece

- Write and translate astronomy/physics articles for a general audience, manage social media uploads and article scheduling.

FOSS¹ CONTRIBUTIONS

[radis](#) • [einsteinpy](#) • [spectral-cube](#) • [astropy/specutils](#) • [astropy/specreduce](#)

THESIS PROJECTS

MASTER'S THESIS II – LEIDEN UNIVERSITY | THE MOLECULAR HEART OF NGC 1068 Sep 2024 – Jul 2025

- Analyzed large (~30 GB) multi-dimensional radio datasets using **Python**, **NumPy**, and **CASA**, developing **3D kinematic models** and **automated statistical workflows** for signal detection, parameter mapping, and stability analysis.

MASTER'S THESIS I – LEIDEN UNIVERSITY | IMPROVING THE QUALITY OF RADIO IMAGES Oct 2023 – Jul 2024

- Designed and optimized **radio image reconstruction algorithms**, including a **2D Gaussian fitting pipeline** for sub-pixel localization and a **clustering-based source detection** method.

BACHELOR'S THESIS – NATIONAL & KAPODISTRIAN UNIVERSITY OF ATHENS | SIMULATION OF HIGH-ENERGY ASTROPHYSICAL EMISSION Mar 2021 – Mar 2022

- Built **computational models** of gamma-ray emission and applied **data-driven optimization** to compare leptonic and hadronic scenarios and infer physical parameters.

INTERNSHIP – NATIONAL OBSERVATORY OF ATHENS

STATISTICAL MODELING OF ACTIVE GALACTIC NUCLEI Mar 2020 – May 2020

- Performed **statistical analysis** of multi-wavelength data for ~12,000 AGN from **SDSS**, **WISE**, and **XMM-Newton**, including regression, correlation analysis, and treatment of upper limits.

¹Free and Open Source Software