

Internship in User Support & Climate Services Division

Internship title: Machine Learning for Africa: Deploying Machine Learning Models for Weather Prediction in Africa

EUMETSAT has a close cooperation with Africa, we have more than 30 years of cooperation support weather services to use EUMETSAT data in forecasting operations to support the protection of life and property and economic development. Currently EUMETSAT is responsible to supporting the implementation of the AMSAF-nowcasting in cooperation with the African Regional Specialised Meteorological Centres with responsibility for nowcasting. At the core of the AMSAF-nowcasting is the use of the Nowcasting SAF software to produce products for the regional centres. This project is funded by the European Union and is aligned with EUMETSAT objectives.

There are a number of machine learning models such as Rainfall for Africa (Chalmers University) and NCAST (University of Leeds) that are driven by EUMETSAT data and targeted at African users. In addition, there are some centres working on global models such as MAZU in China.

EUMETSAT is interested in understanding the maturity and applicability of these models to support the African forecast centres. It may be anticipated that as these models mature, they will provide faster methods to produce nowcasting and associated products; for example, tropical cyclone monitoring, dust, fire or atmospheric composition.

At this time there is no toolkit available to support the validation, benchmarking and comparison of these, and future, models so that the quality can be assessed prior to potential transfer to operations. This would be a core part of the internship: to establish workflows in the European Weather Cloud to deploy such models, to run inference with EUMETSAT data and enable such a comparison. This would then enable faster uptake of appropriate models for the African users, and put in allow for the extension of the workflows to cover validation for Member State application and application in other thematic areas.

Duties

The intern will perform the following tasks:

- Run inference of the models with data from



LOCATION

Darmstadt, Germany



QUALIFICATIONS

The internships are open to bachelor and master students with mandatory internship requirements in relevant disciplines such as Computer Science, Artificial Intelligence, Earth System Science, Remote Sensing, Geoinformatics, Geography.



LANGUAGES

The official languages of EUMETSAT are English and French. It is necessary to be able to work effectively in English.



DEADLINE

19 November 2026

- Perform research in existing Machine Learning Models for Weather Prediction for Africa. Make an overview of models for weather predictions for Africa and their input data. Make an assessment on which models can run with EUMETSAT data.
- Deploy selected models on the European Weather Cloud.
- EUMETSAT (FCI, GEORing). Optionally, extend the inference approach to run on near-real-time (NRT) data from EUMETSAT.
- Create a small application or Jupyter Notebook for visualizing the model output.
- Present the outcomes and results within the organization and beyond.

Skills and Experience

- Have the ability to work effectively in English;
- Be computer literate;
- Be intrinsically motivated and curious about the internship subject;
- Be able to work independently and collaboratively;
- Have the ability to take the initiative in researching ideas;
- Have the ability to collect, collate, conceptualize and present information clearly.

Additional advantageous requirements:

- Programming experience, preferably in Python;
- Experience with Machine Learning (ML);
- Knowledge in EO data or Earth Sciences;
- Relevant project or work experience in a technical field through class projects, clubs or internships;
- Experience writing code and contributing to open source projects.

Employment Conditions

Length of internship: **3 months**

Anticipated start date: **2027**

The internship will require a non-disclosure agreement and potentially a basic background check for the intern, due to the sensitivity of the provided information.

No salary is paid to interns who are still in studies, however a daily allowance and contribution to travel / accommodation costs may be provided.

Interns may be granted a daily allowance of EUR 25 per day, relocation cost reimbursement of up to EUR 400, and accommodation cost reimbursement of up to EUR 1000 per month.

Interns are responsible for providing their own health and accident insurance and for finding their own accommodation in Darmstadt.

Consideration may also be given if the internship is not a mandatory part of curriculum, for a maximum duration of three months.

EUMETSAT is committed to providing an equal opportunities work environment for men and women.

Please note that only nationals of EUMETSAT Member States may apply. The EUMETSAT Convention requires that Staff shall be recruited on the basis of their qualifications, account being taken of the international character of EUMETSAT.

About EUMETSAT

EUMETSAT is Europe's meteorological satellite agency. Its role is to establish and operate meteorological satellites to monitor the weather and climate from space - 24 hours a day, 365 days a year. This information is supplied to the National Meteorological Services of the organisation's Member States in Europe, as well as other users worldwide.

EUMETSAT also operates several Copernicus missions on behalf of the European Union and provide data services to the Copernicus marine and atmospheric services and their users.

As an intergovernmental European Organisation, EUMETSAT has 30 Member States (Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.)

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