



APIs

The list of APIs offered by NOMAD

The NOMAD Metainfo

Browse the NOMAD Metainfo Schema

NOMAD Remote Tools Hub

Browse the list of available remote tools.

Manage and Publish Materials

Materials are managed and published by [FAIRmat](#). This deployment hosts a wide range of research data in materials science, condensed matter physics and the chemical physics of solids. You can access all published data without an account. If you want to upload data, you need to log in or register for an account.

You can learn more about NOMAD on its [homepage](#) or our [documentation](#).

Interactive Search

NOMAD extracts **rich metadata** from uploaded raw-data. [Explore NOMAD's data](#) by creating complex queries from interactive data visualizations of key properties, including the simulated composition/structure, used method, upload metadata, as well as material classifications and available quantities. Or use the **Optimade** filter language to add arbitrarily nested queries.

A common data format

NOMAD provides data in *processed* machine processable and common *processed data*, i.e. the **NOMAD** sections of quantities with weights and descriptions. These definitions and they can be [browsed here](#)



Welcome to NORTH (NOMAD Remote Tools Hub)

NORTH allows you to run pre-configured applications directly on the server. With NORTH you can access, analyze, and create data directly using your favorite tools, no setup required.

This page shows all available tools. It also show which tools are already running for you. For each tool each user can only run one instance tools can also be launched from the file browser in your uploads, depending on file types.



apmtools

Use open source software for analyzing atom probe tomography data in NOMAD.



fiji

Use FIJI to visualize and analyze your images in NOMAD.



Jupyter

Jupyter Notebook server.

Jupyter Notebook: The Classic Notebook Interface

Maintainer: [The NOMAD Authors](#)

File extensions: ipynb

The Jupyter Notebook is the original web application for creating and sharing computational documents. It offers a simple, streamlined, document-centric experience.



LAUNCH



nionswift

Use Bruker nionswift to visualize and analyze electron microscopy data in NOMAD.



Pyiron

Jupyterlab with pyiron installed



File Edit View Run Kernel Tabs Settings Help



 Launcher



Name

Modified

- uploads

12s ago

virtual_access_se...

9h ago

work

23h ago



Notebook



Python 3
(ipykernel)



Console



Python 3
(ipykernel)



Other



Terminal



Text File



Markdown File



Python File



Show Contextual Help



/ ... / NFFA-DI-services / notebooks /

Name	Modified
feature_similarity_service.ipynb	23 hours ago
image_feature_extraction_service.ipynb	23 hours ago
sem_categories_classification_service.ipynb	23 hours ago
sem_ocr_metadata_extraction_service.ipynb	20 hours ago
sem_scale_classification_service.ipynb	23 hours ago
stm_artifact_classification_service.ipynb	23 hours ago



Markdown ▾

Open in... Python 3 (ipykernel) ○



Image Feature Extraction Service

This notebook is part of **NFFA-DI Virtual Access Services** and functions as an **image feature extraction tool** using the **Vision Transformer (ViT)** model from the Hugging Face `transformers` library.

Objective:

The objective of this service is to extract deep features from images using the **ViT architecture**, which can be used for tasks like image classification, clustering, or similarity analysis.

Key Features:

- Automatically uses **GPU** if available for faster processing, falling back to **CPU** otherwise.
- Saves the extracted features in a `.npy` file.
- Logs detailed processing information and errors to a `log.txt` file.