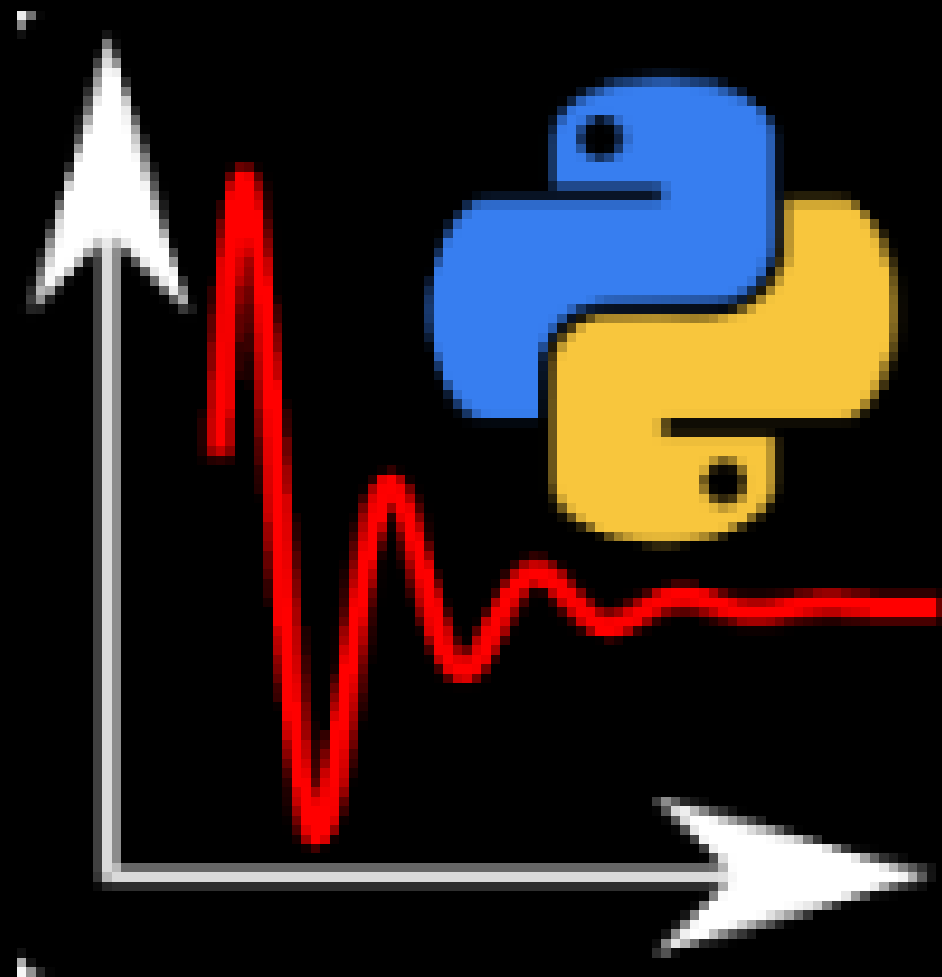


PyMoDAQ

alternative à Labview



 **INNOVATION**

programme OPEN



David BRESTEAU

david.bresteau@cea.fr

CEA/LIDYL ATTOLab

03/07/24 EXACT6

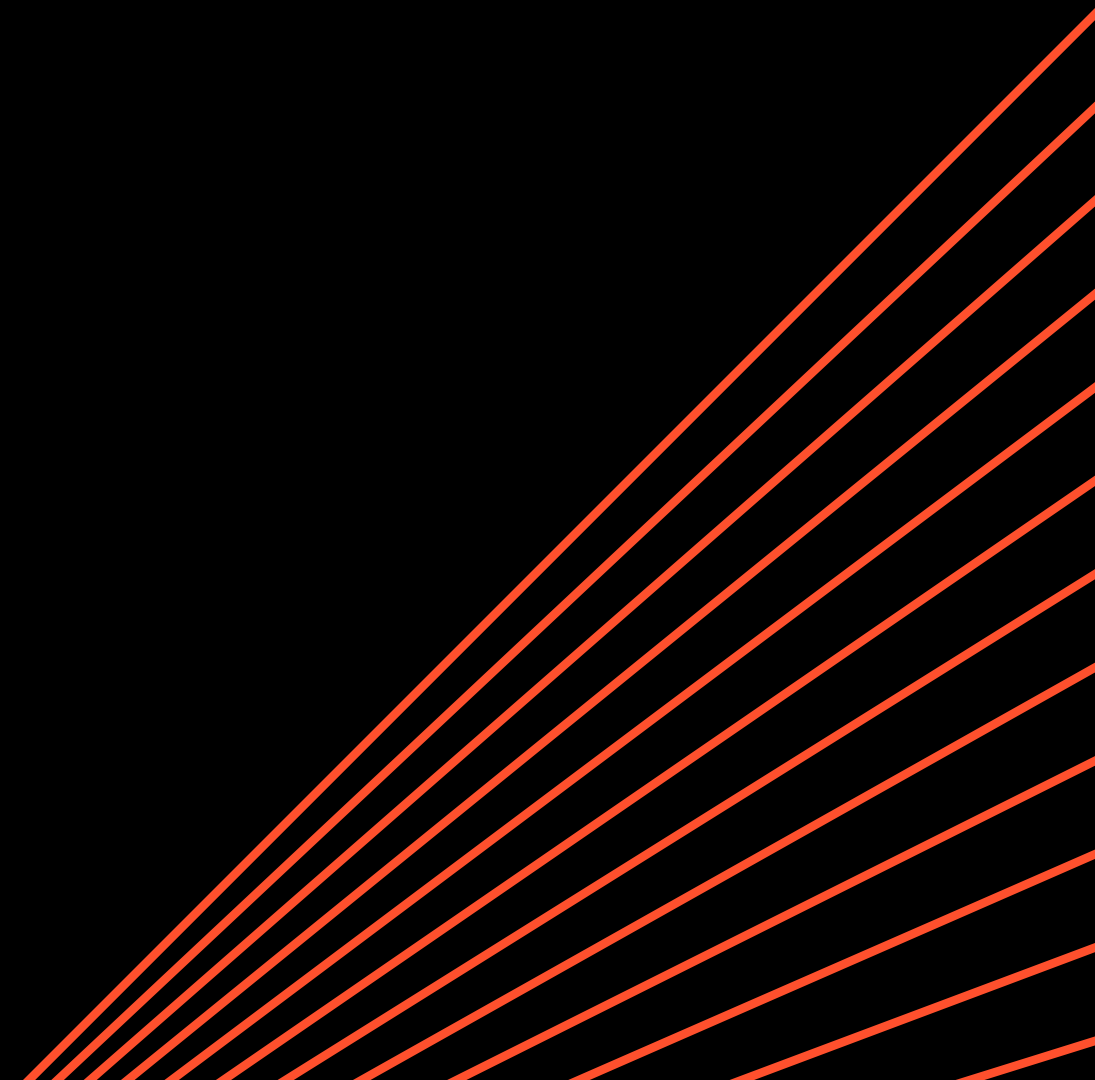
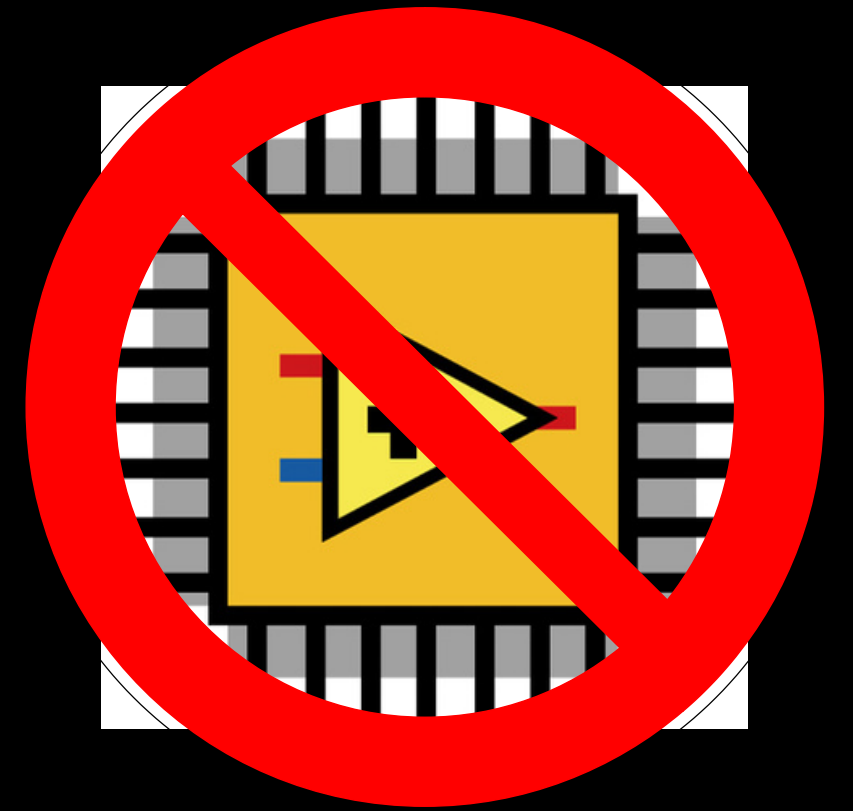
PYthon MOdular DataAQquisition



CONCURRENT DE LABVIEW



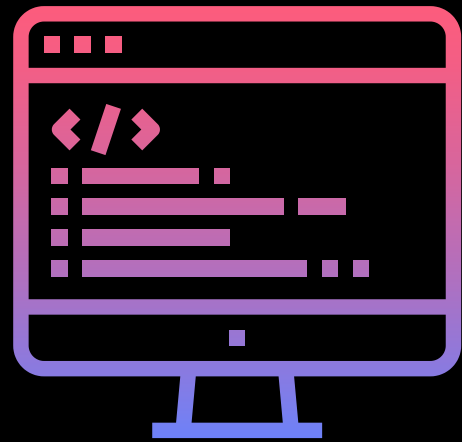
gratuit



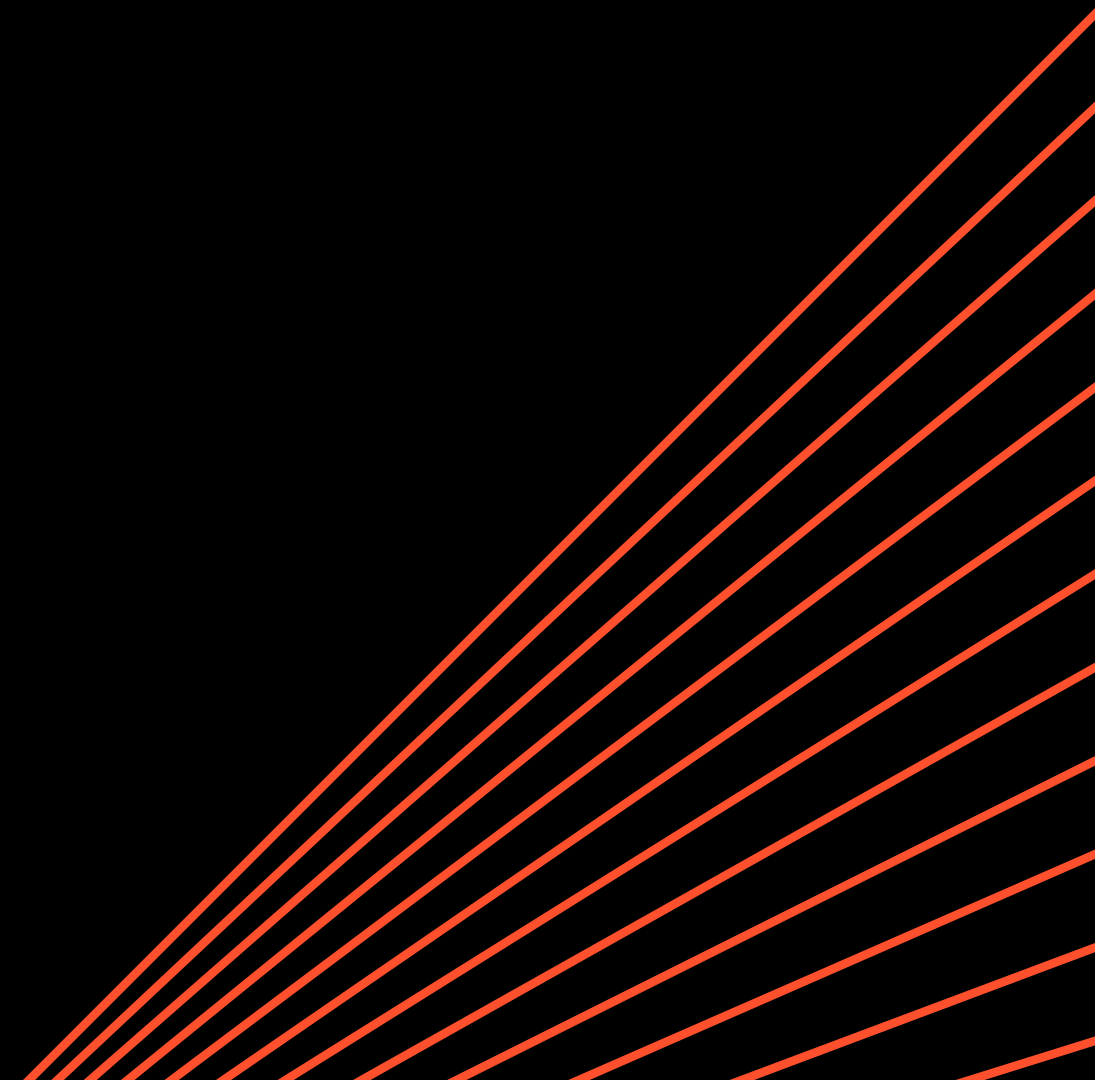
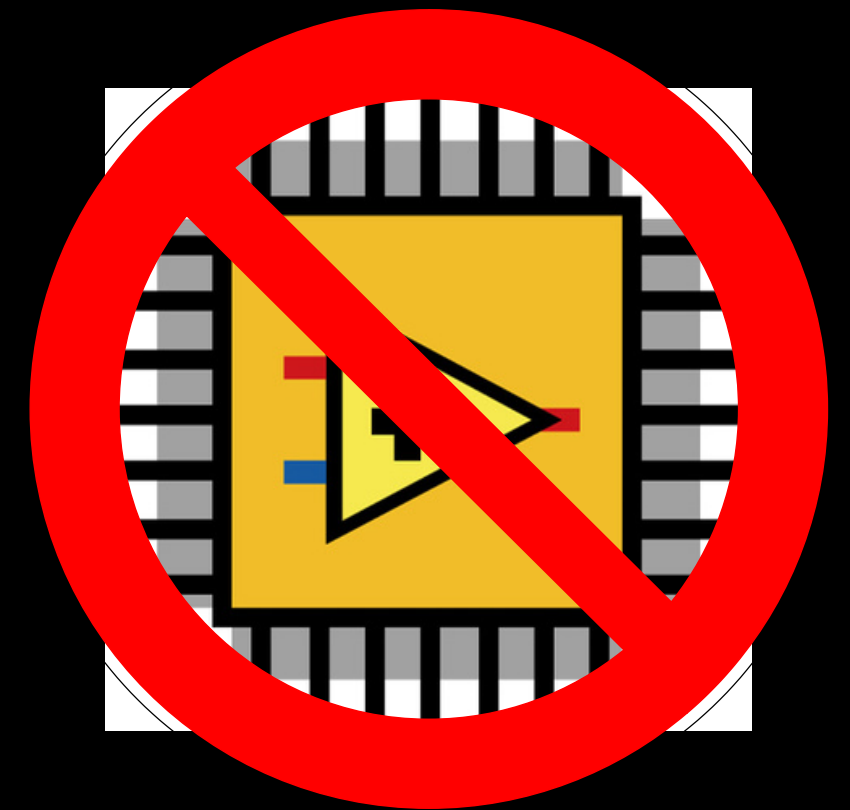
CONCURRENT DE LABVIEW



gratuit



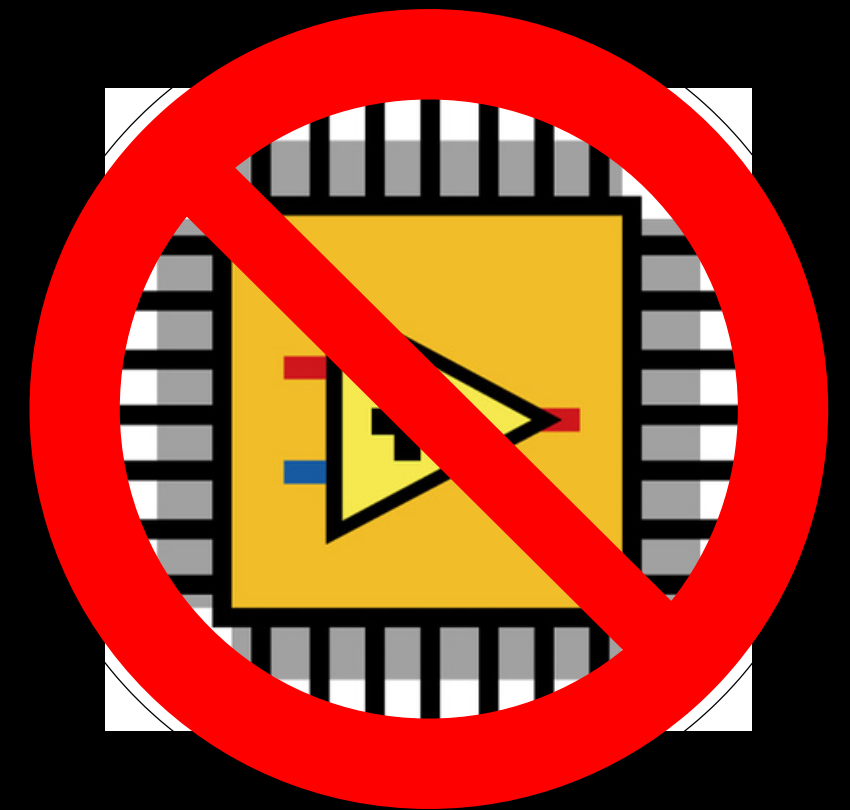
open source



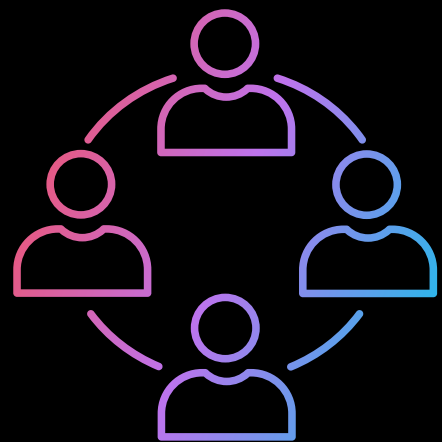
CONCURRENT DE LABVIEW



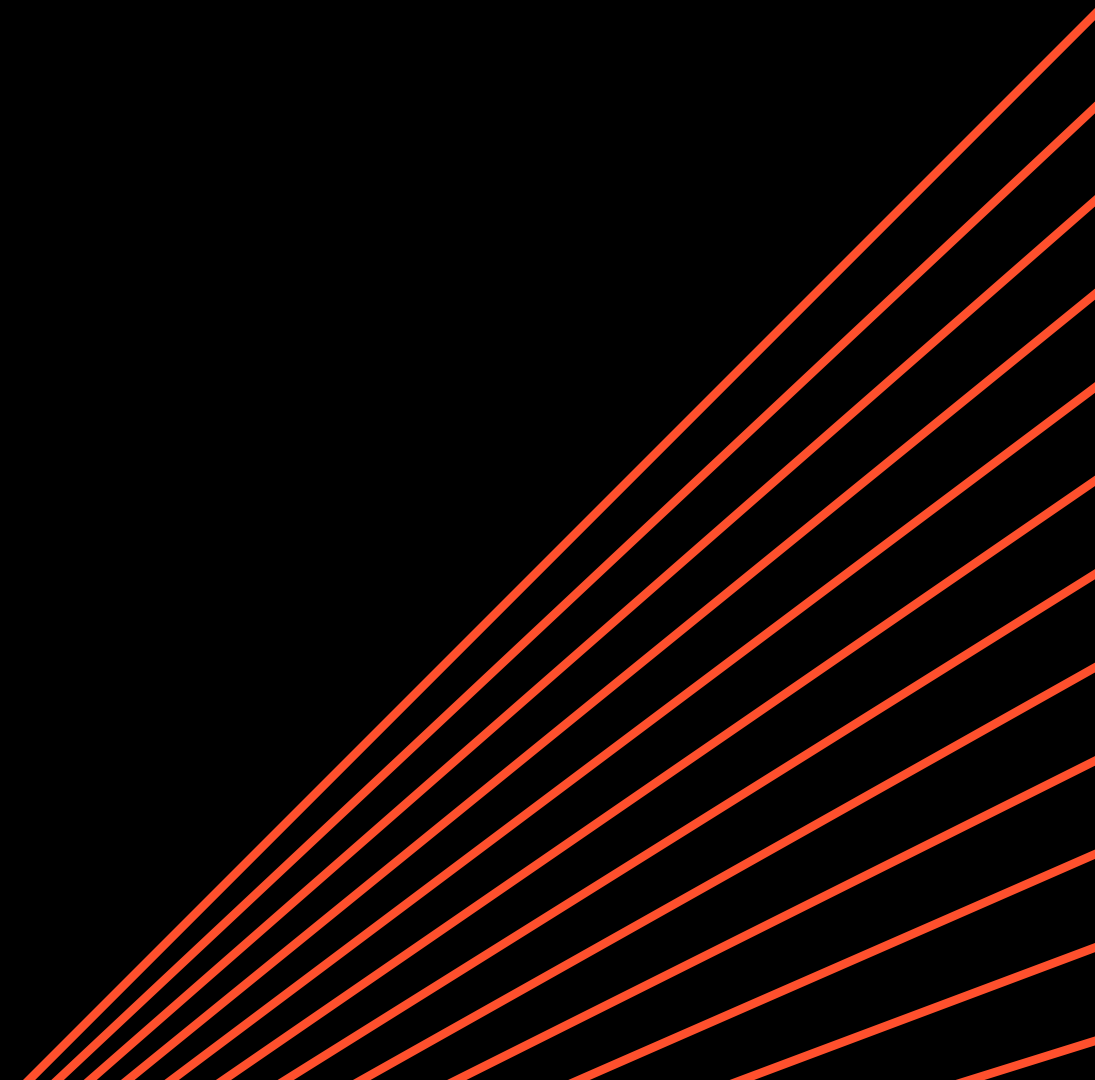
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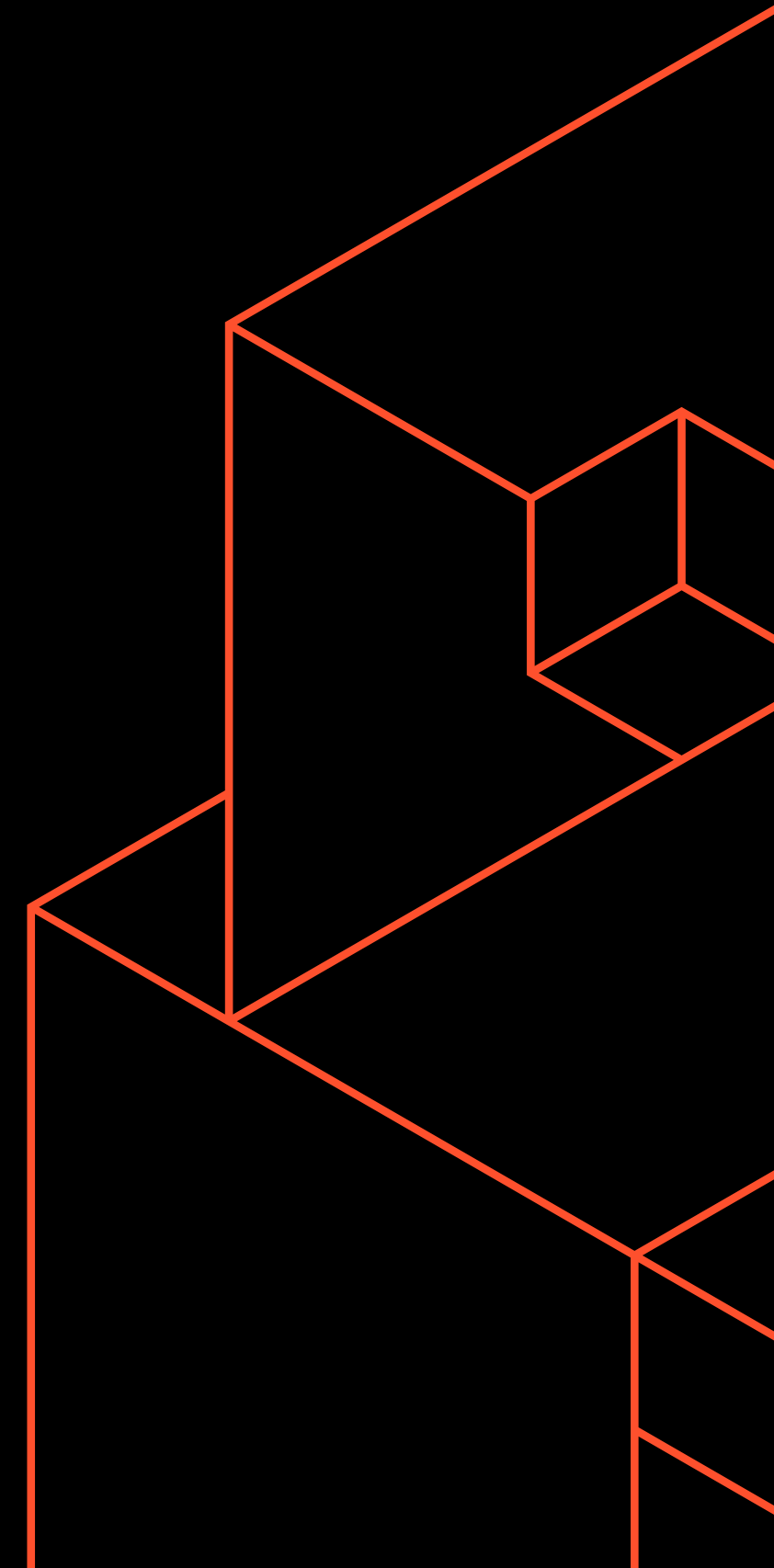
open source



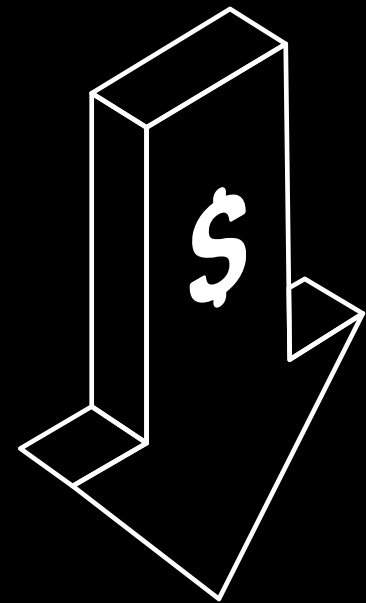
collaboratif



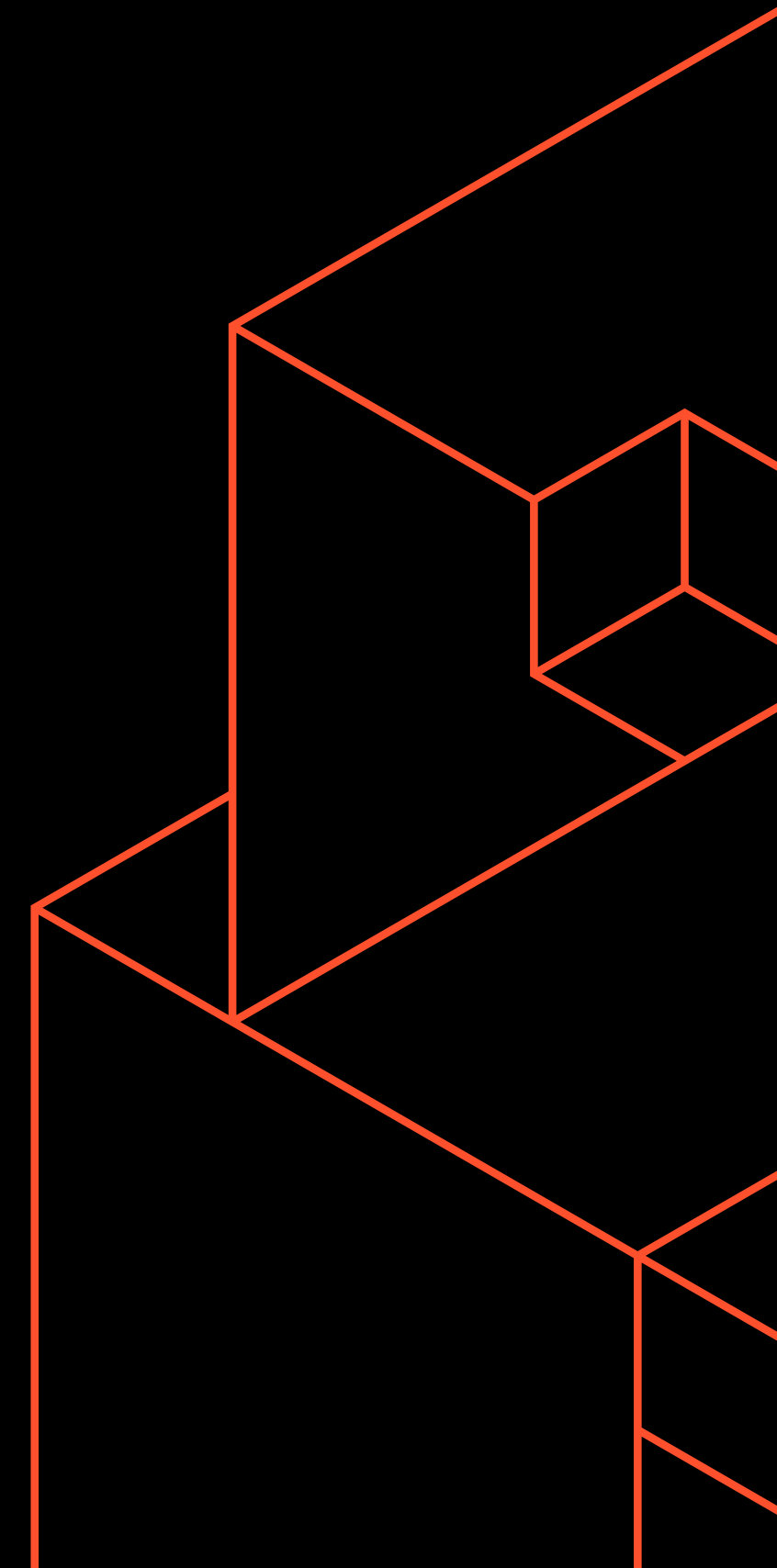
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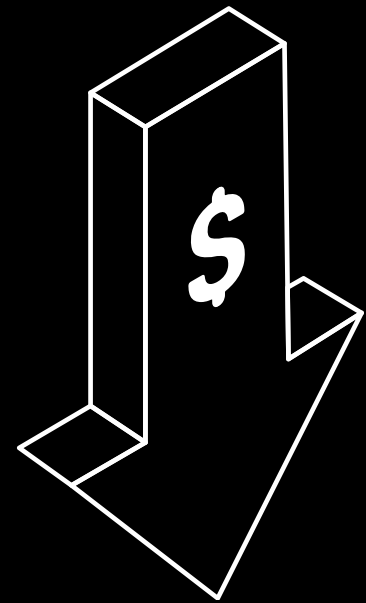
OPEN-SOURCE ?



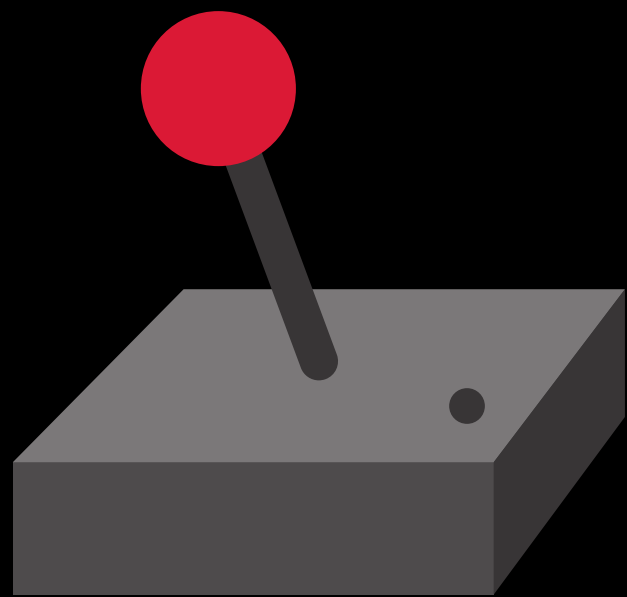
Réduire
les coûts



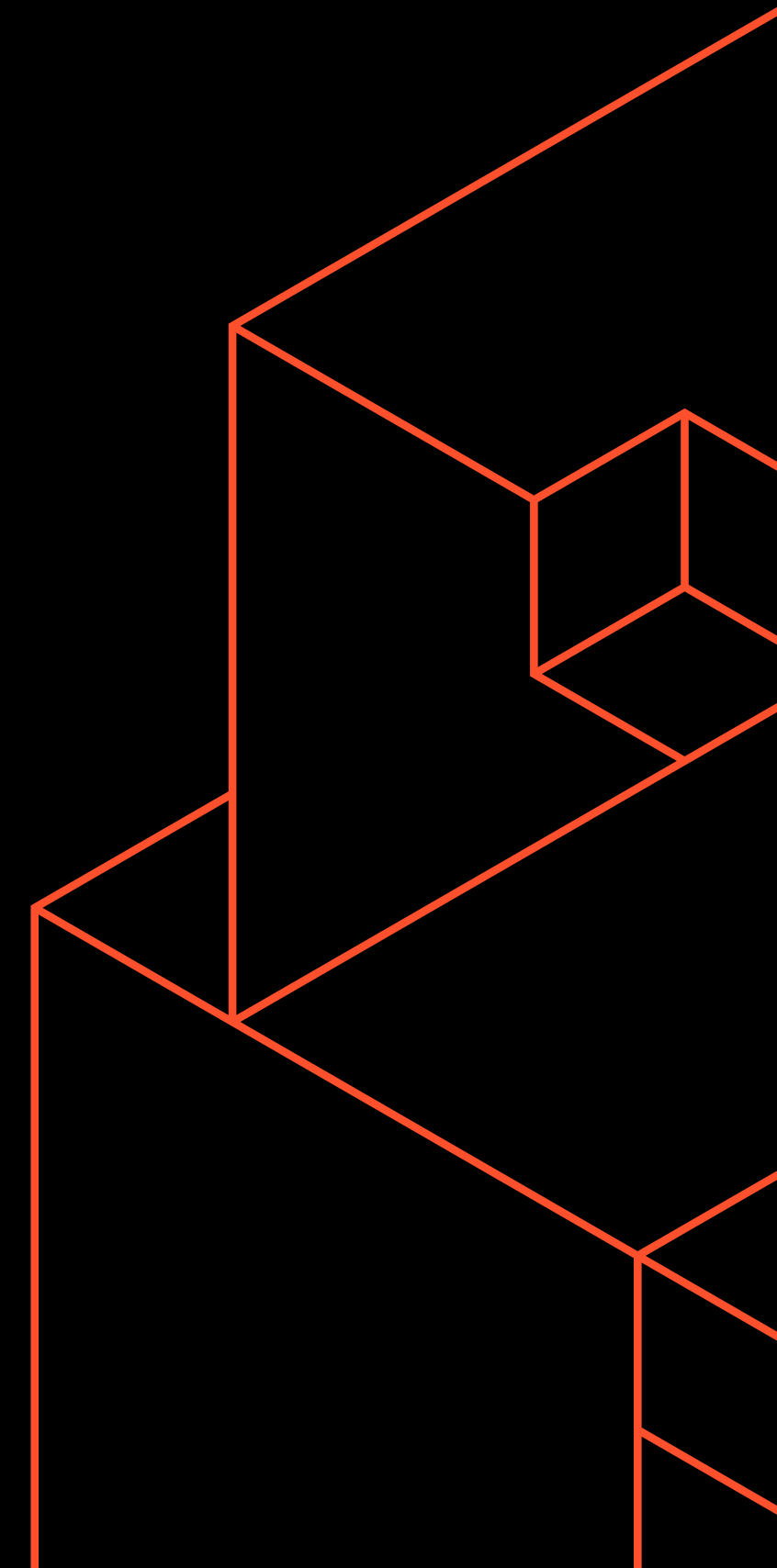
OPEN-SOURCE ?



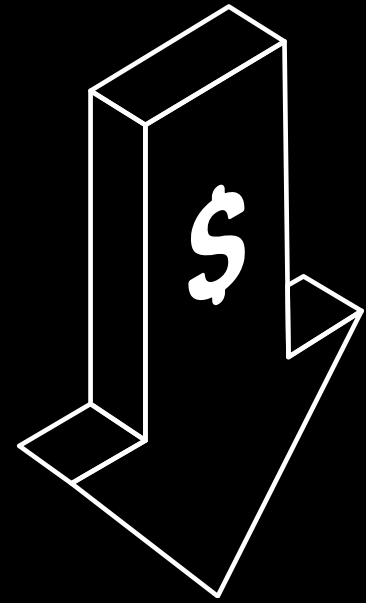
Réduire
les coûts



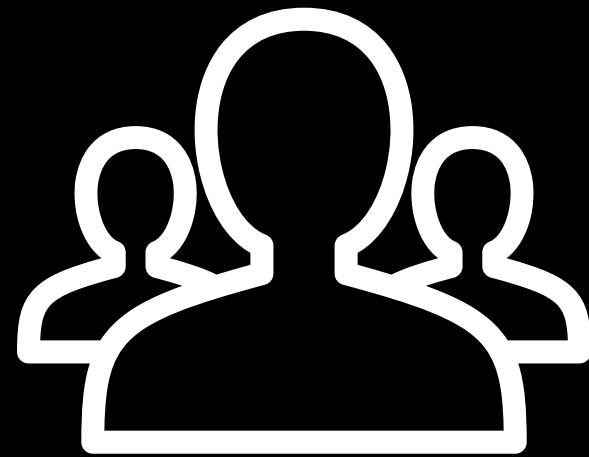
Contrôler
son code



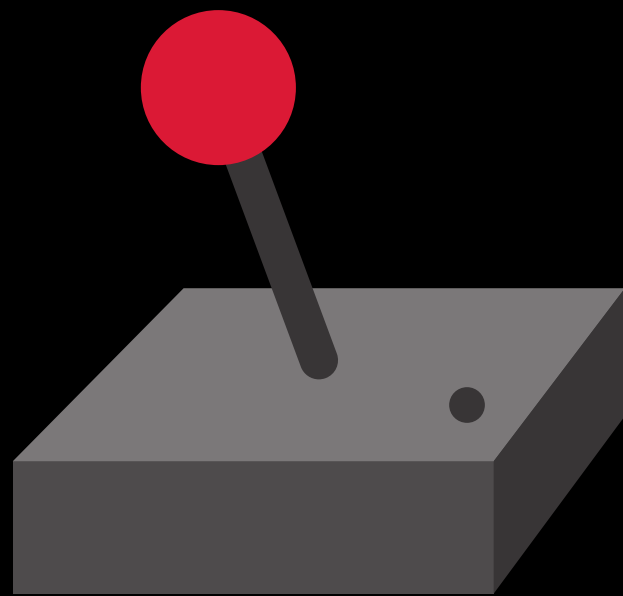
OPEN-SOURCE ?



Réduire
les coûts

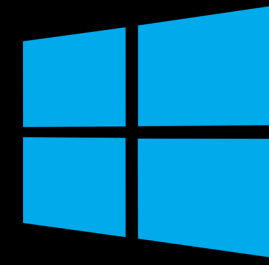
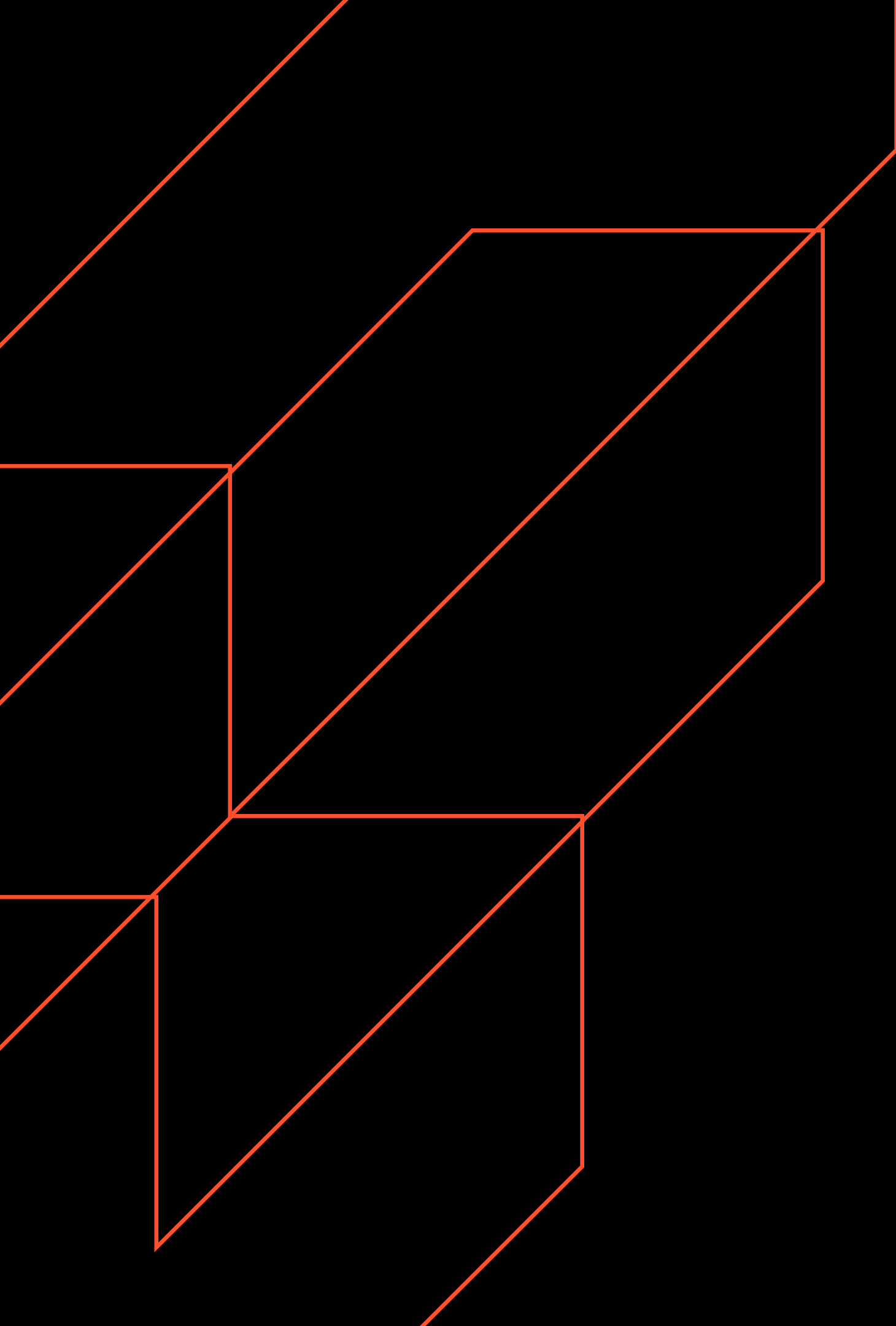


Ne pas
réinventer
la roue

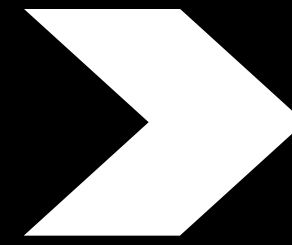


Contrôler
son code

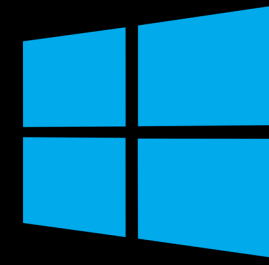
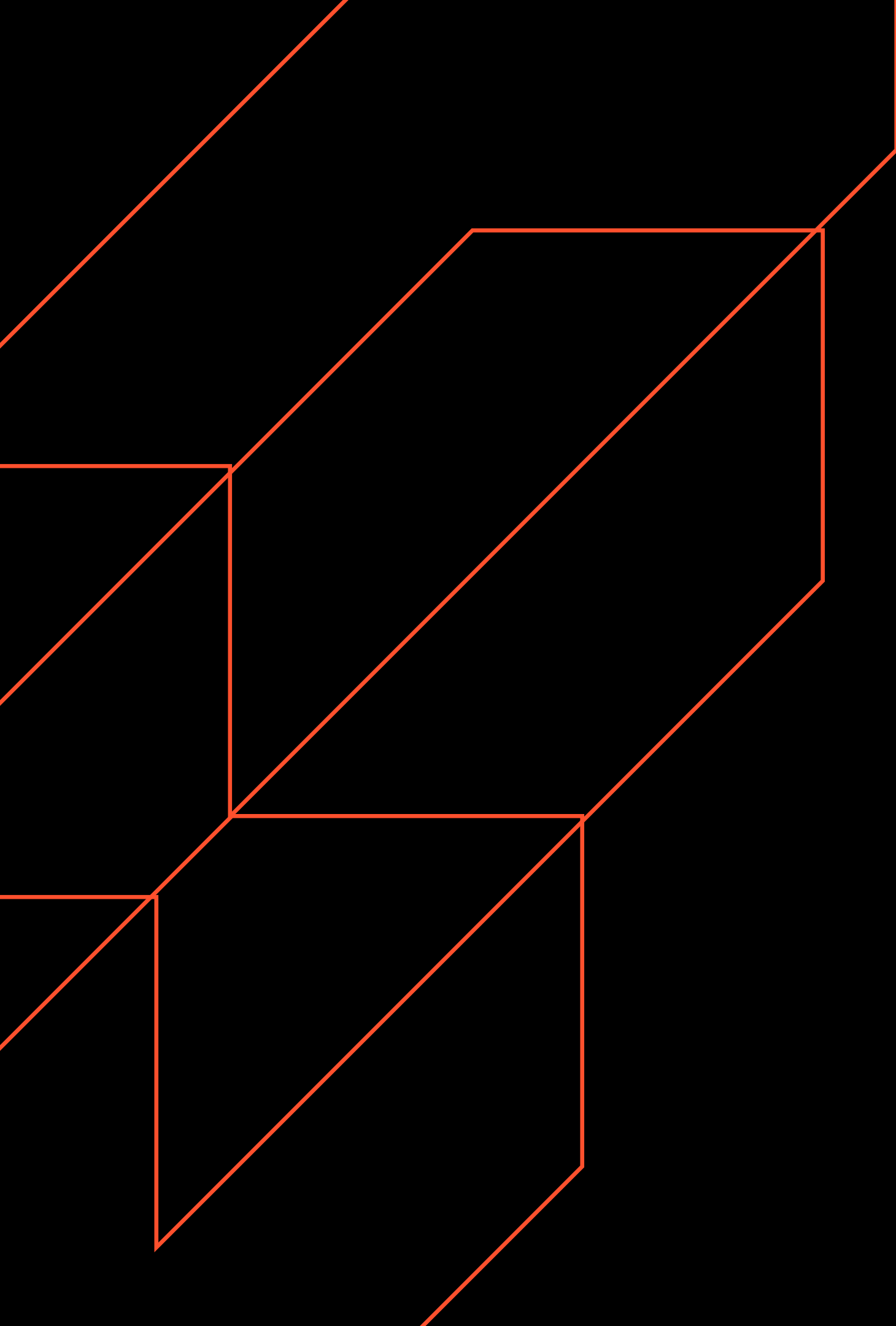




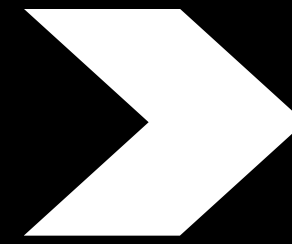
Windows



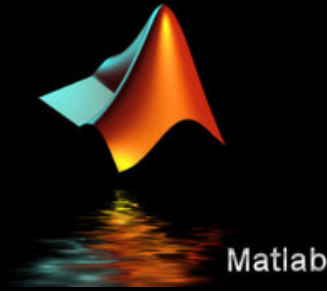
Ubuntu



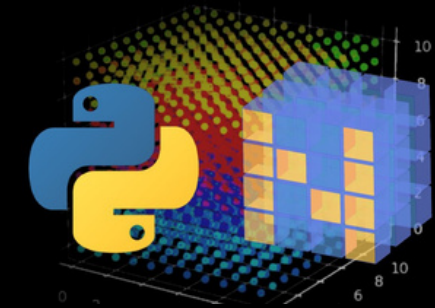
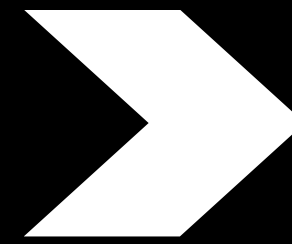
Windows



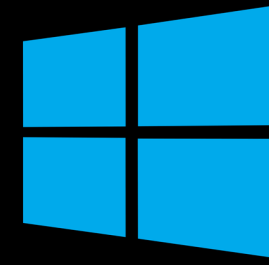
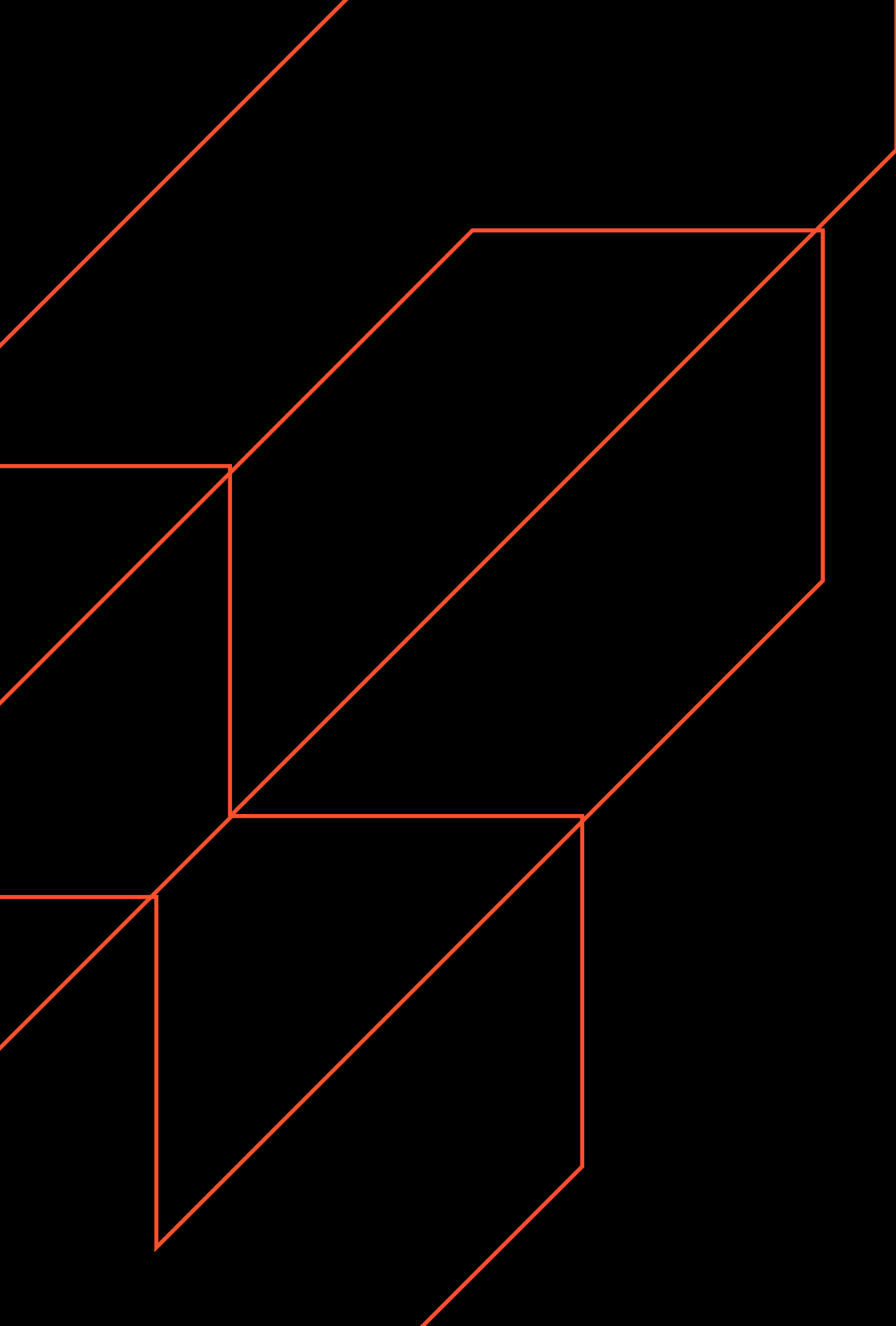
Ubuntu



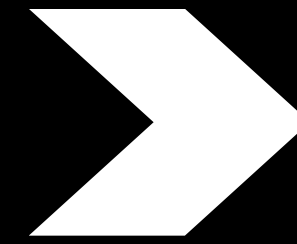
Matlab



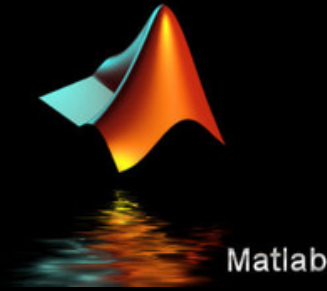
Numpy



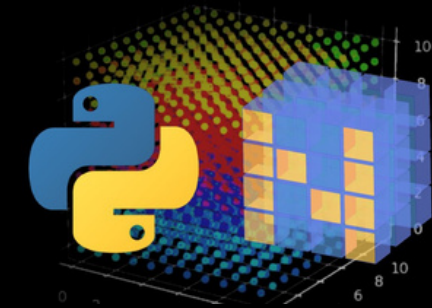
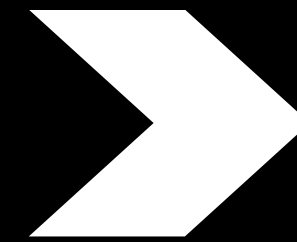
Windows



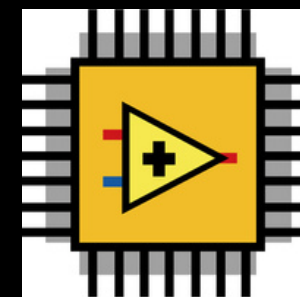
Ubuntu



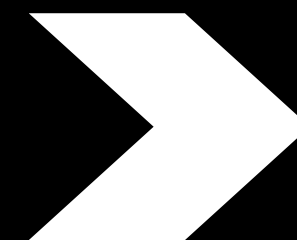
Matlab



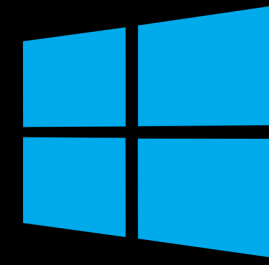
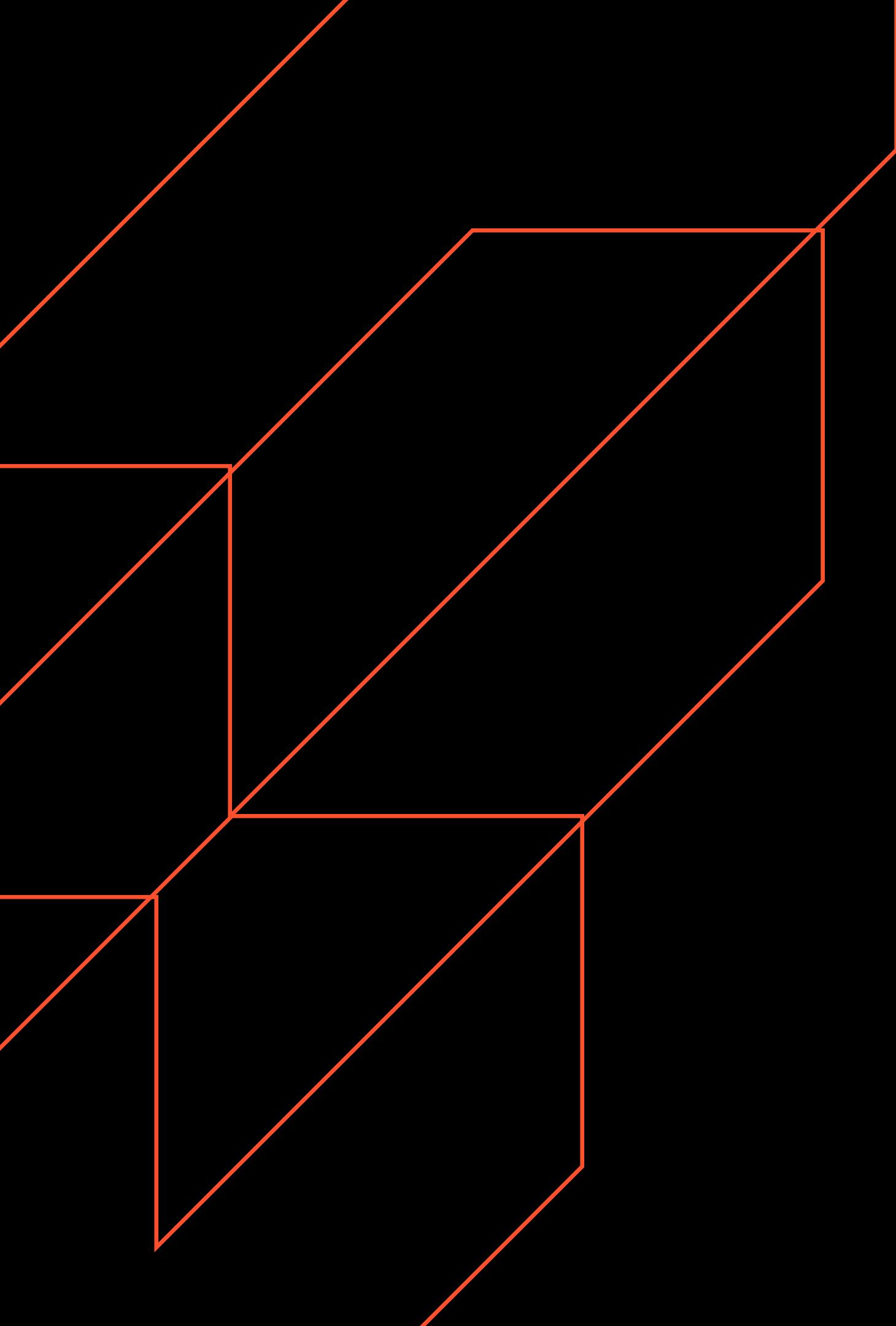
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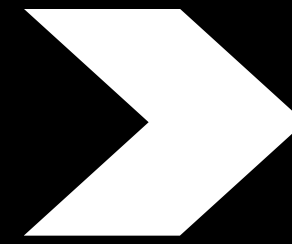
Labview



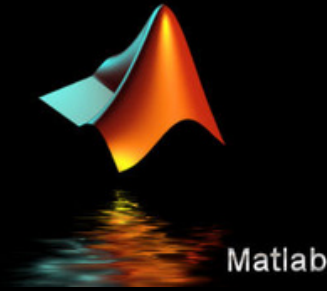
PyMoDAQ



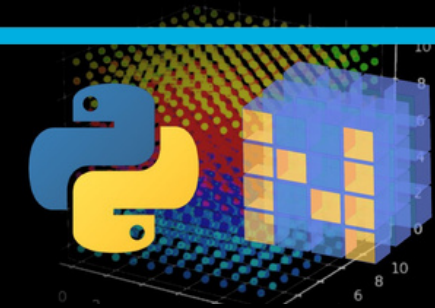
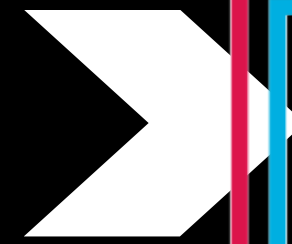
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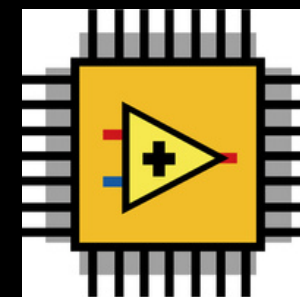
Ubuntu



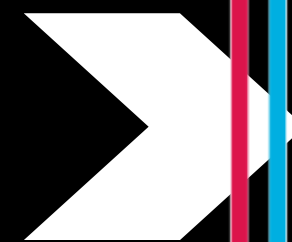
Matlab



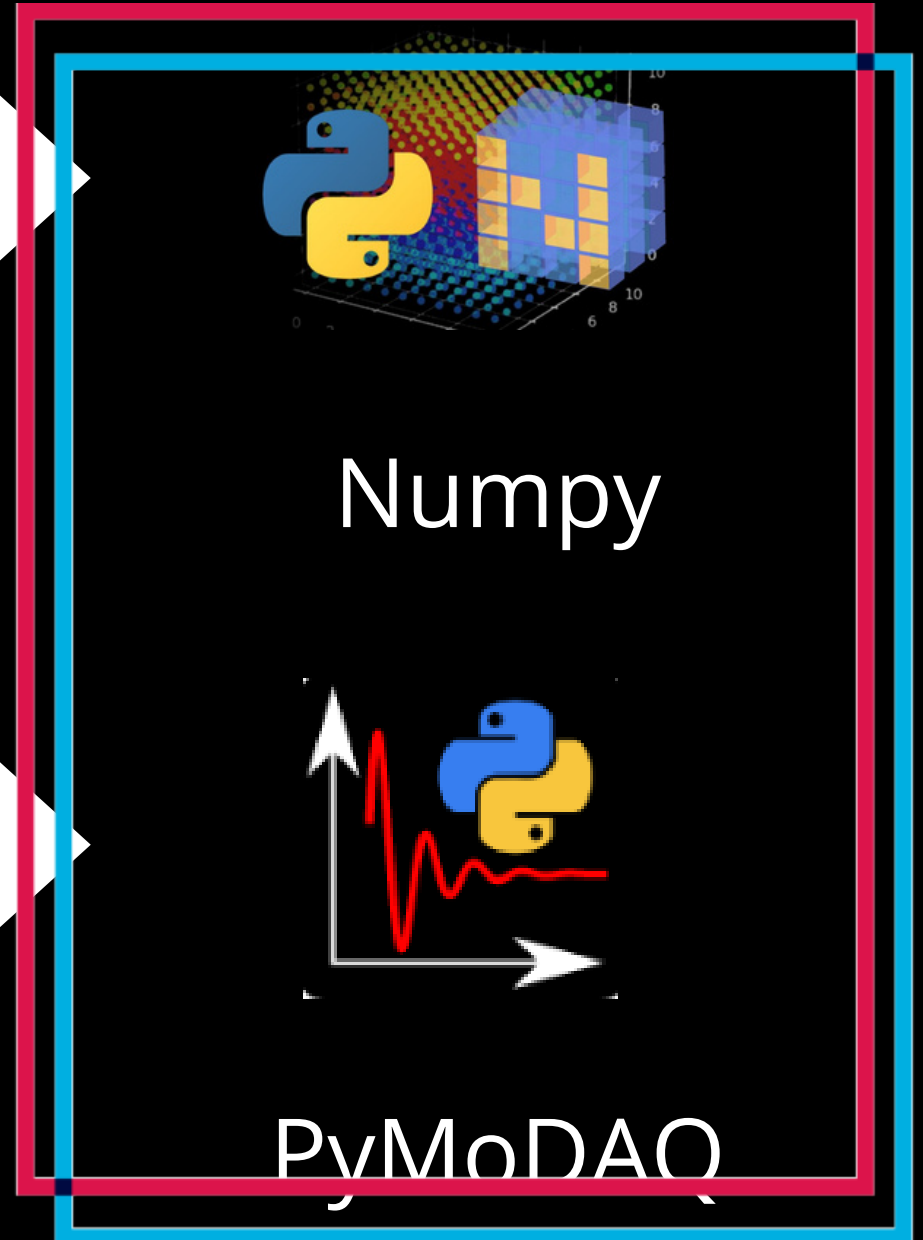
Numpy



Labview

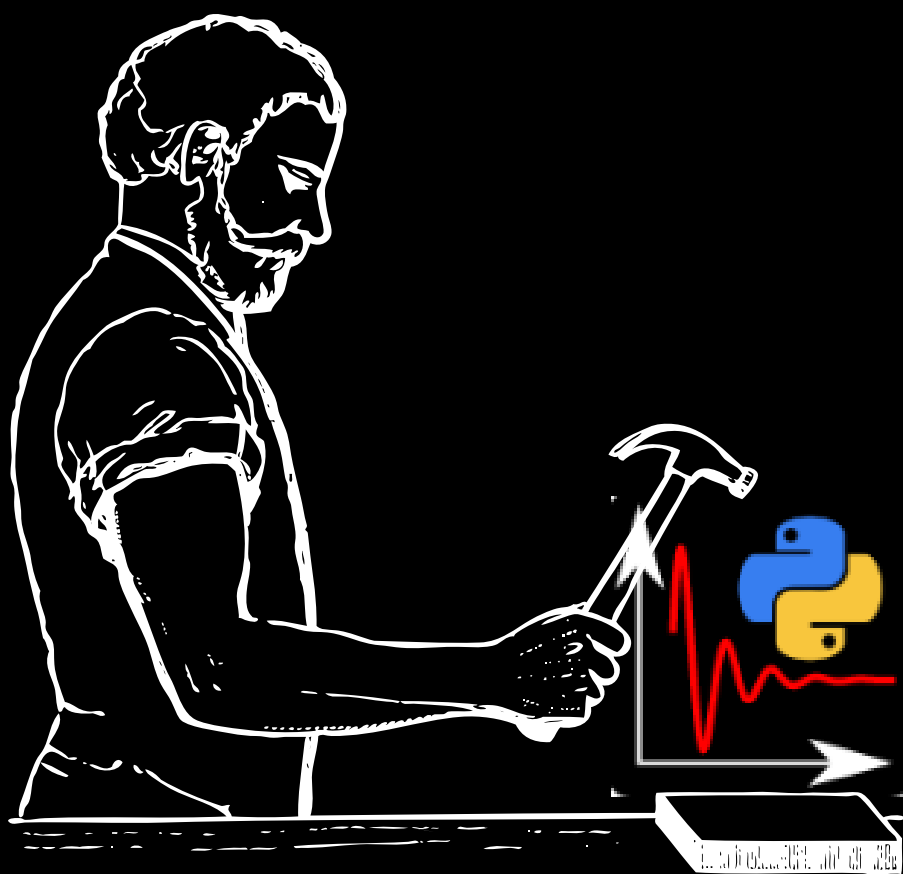


PyMoDAQ





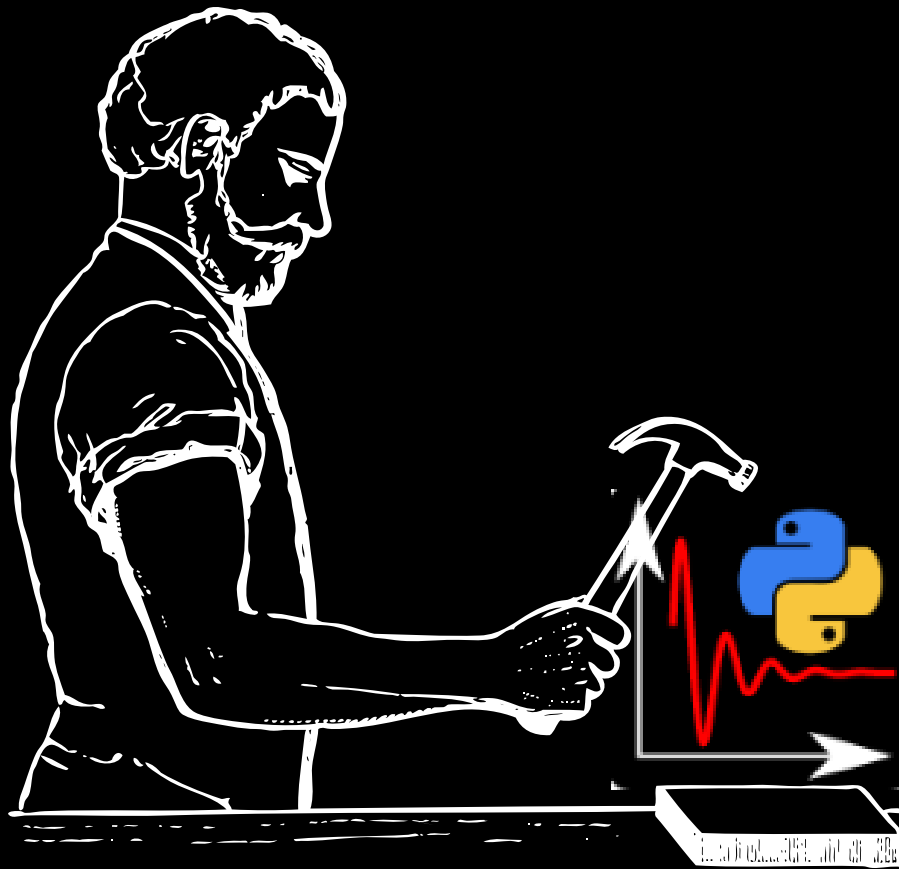
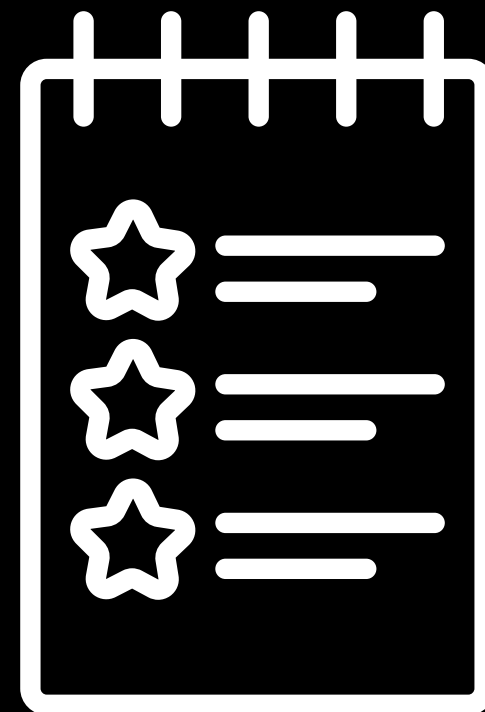
UN FRAMEWORK POUR LES PROGRAMMES D'ACQUISITION



TESTÉ

FONCTIONNALITÉS

- Interface graphique
- Scanning
- Logging
- Enregistrement HDF5
- TCP/IP
- Asservissement
- Drivers



TESTÉ

THORLABS

Ocean Optics

PI

ZABER
Simplifying Motion Control

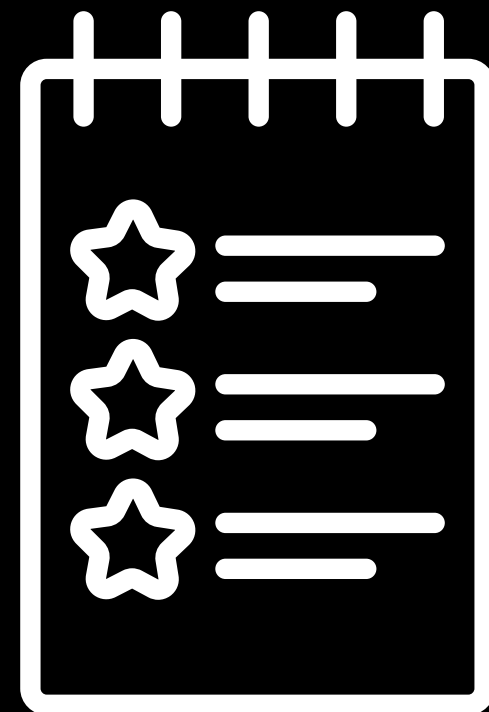
Amplitude

SmarAct

Newport

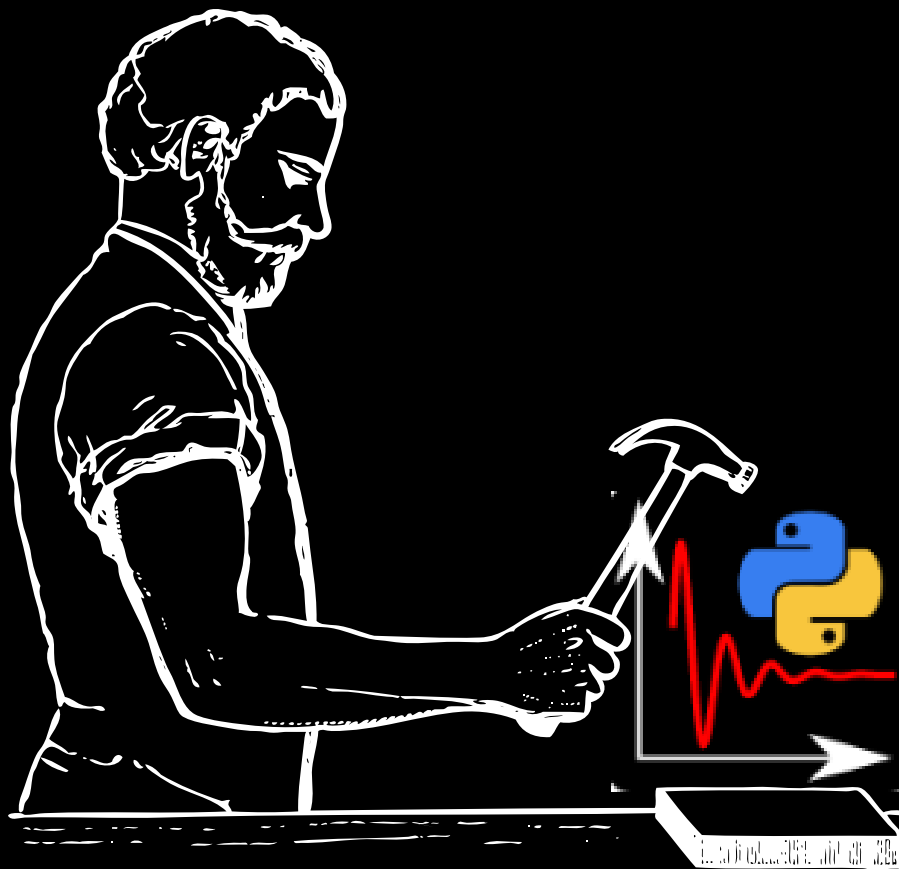
FONCTIONNALITÉS

- Interface graphique
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- Enregistrement HDF5
- TCP/IP
- Asservissement
- Drivers



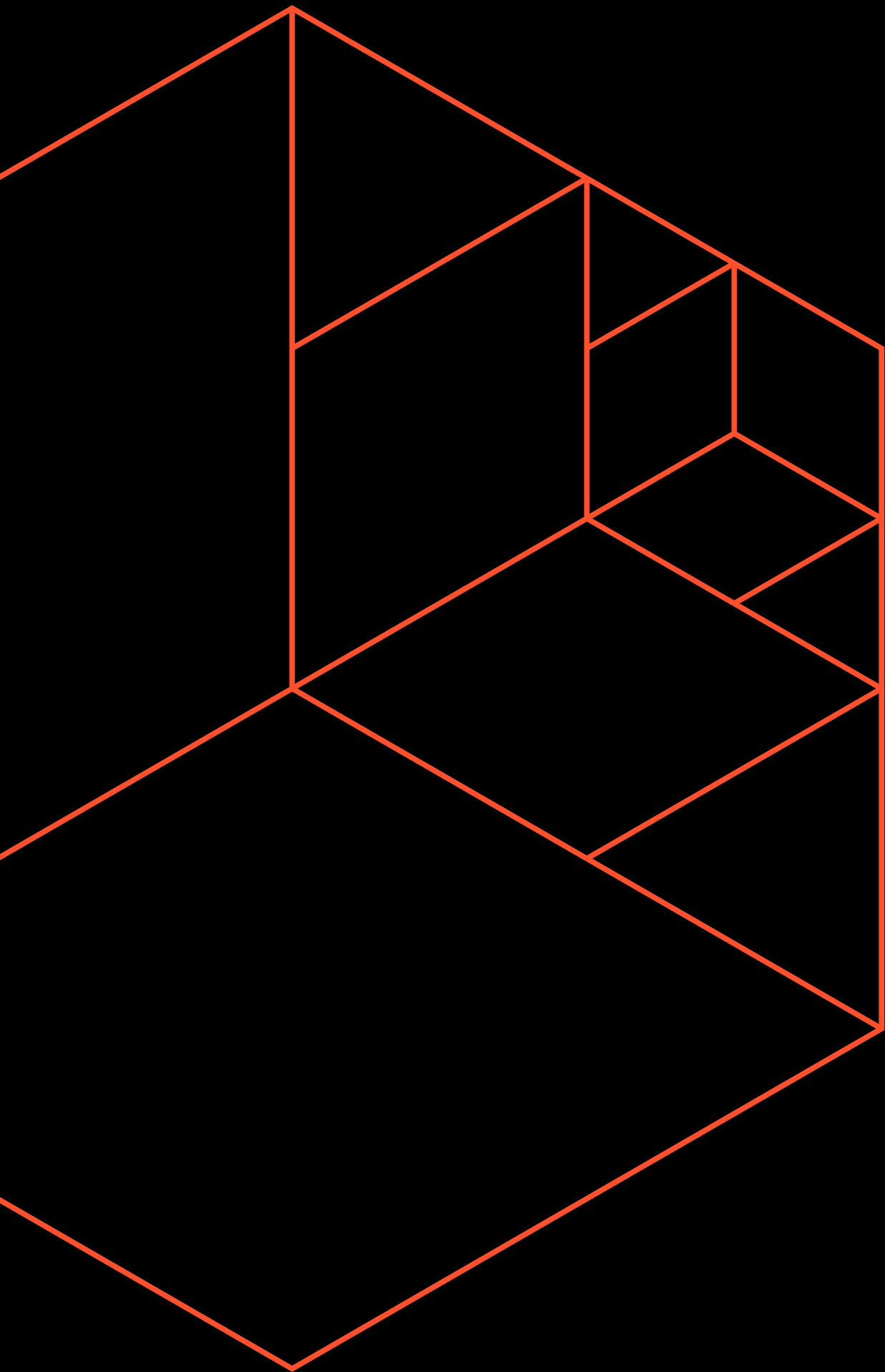
BONNES PRATIQUES

- Versionnement
- Tests
- Documentation



TESTÉ





**VERS UNE
INSTRUMENTATION
OPEN-SOURCE**

PROBLÈMES D'ASSERVISSEMENT

STABILISATION DE POINTÉ LASER

PID Controller basics

4 - PyMoDAQ's PID module
66 views · Jan 20, 2022

Sebastien Weber
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STABILISATION DE POINTÉ LASER



2 x 400€



500€



2 x 500€

2300€

CARACTÉRISATION D'IMPULSIONS BRÈVES

PyMoDAQ-Femto : dscan

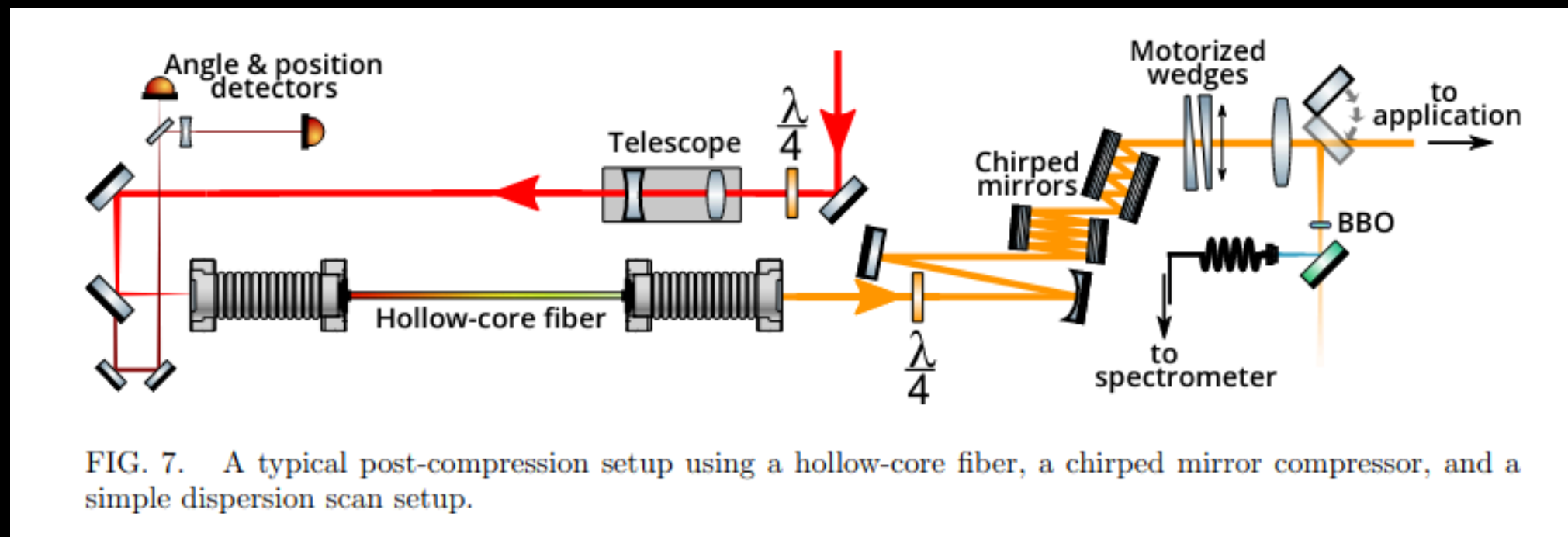
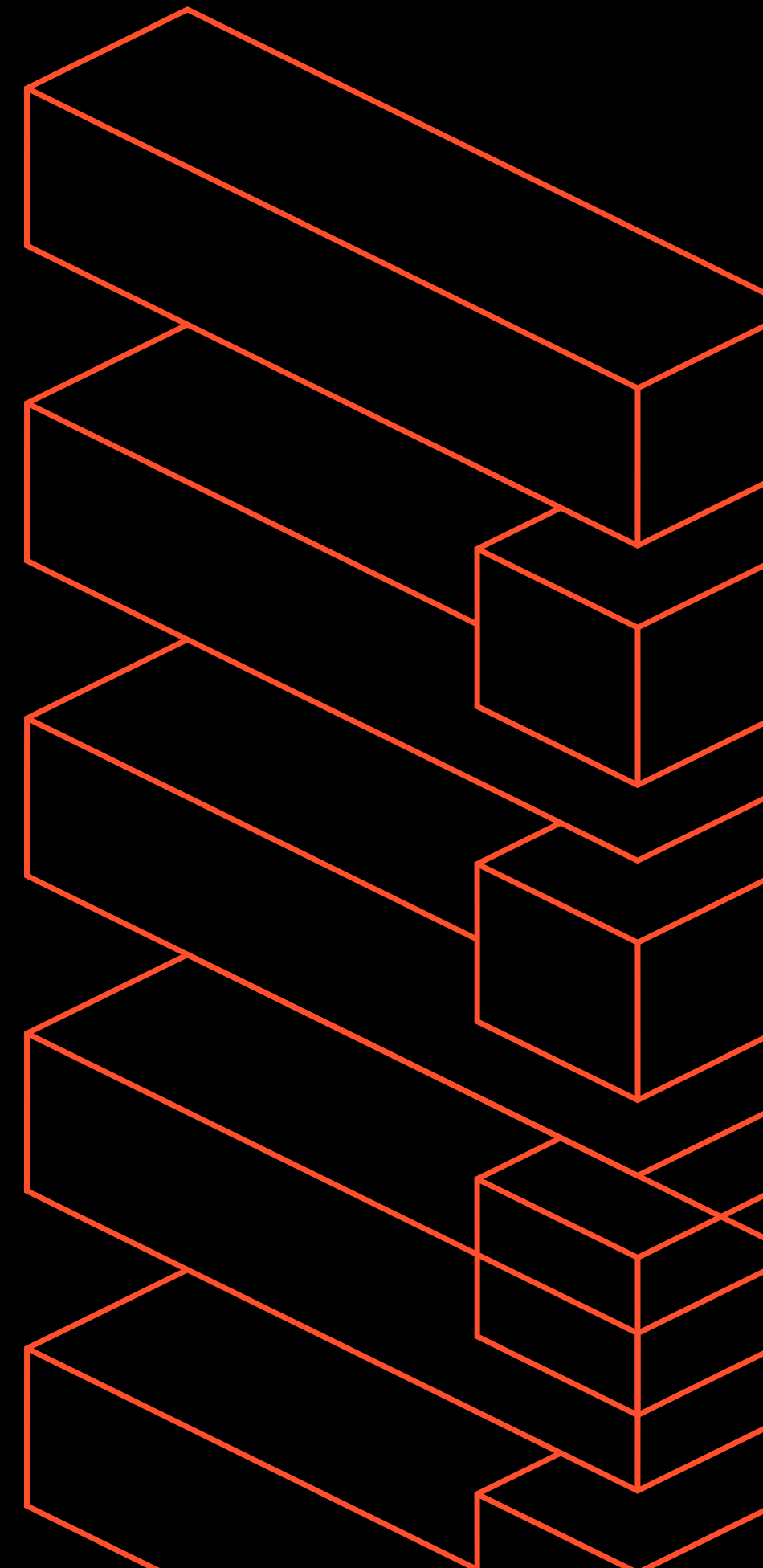
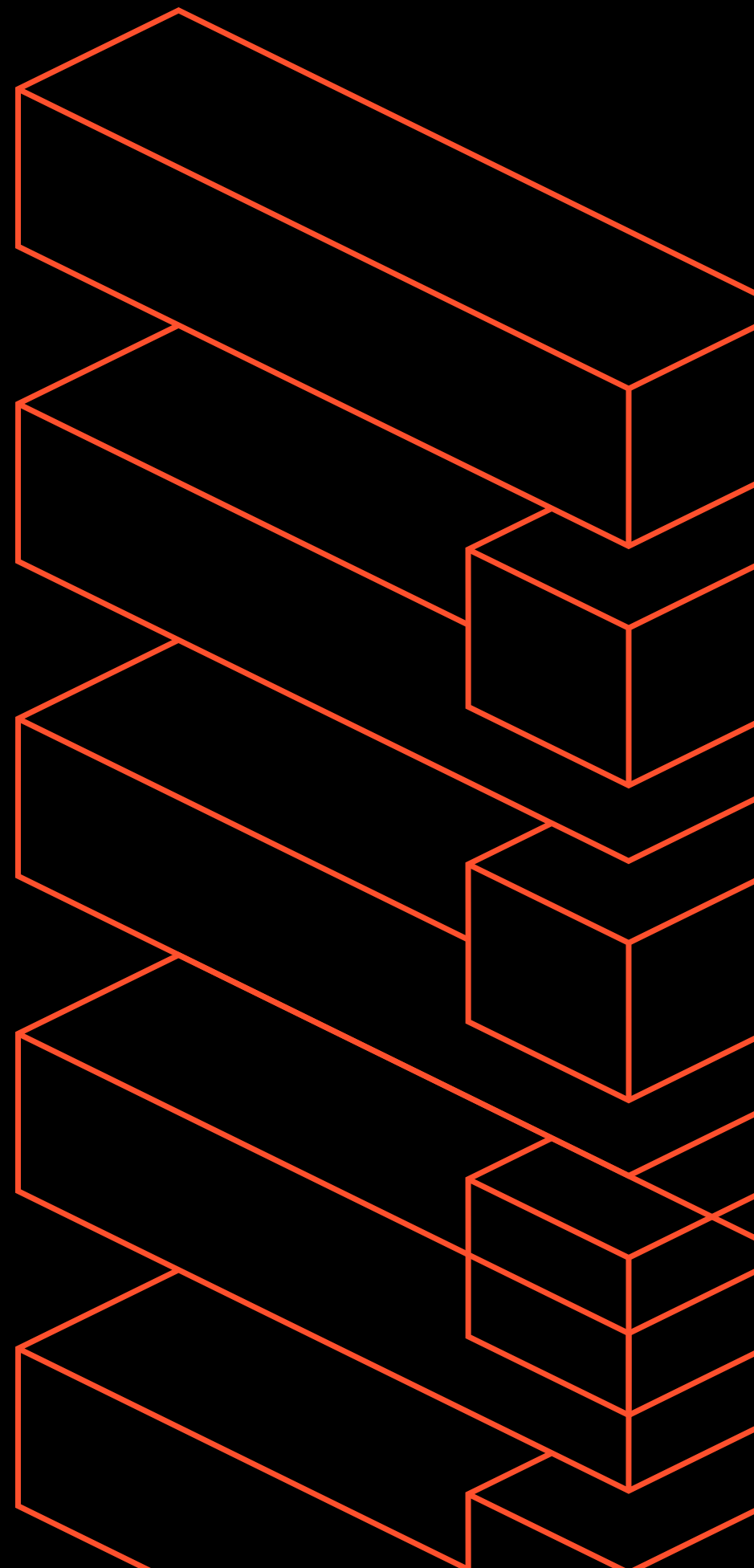
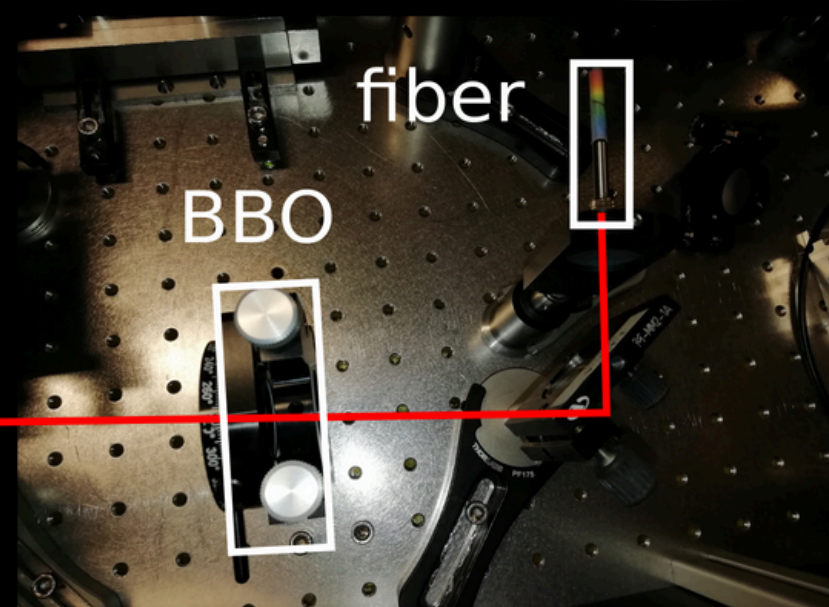
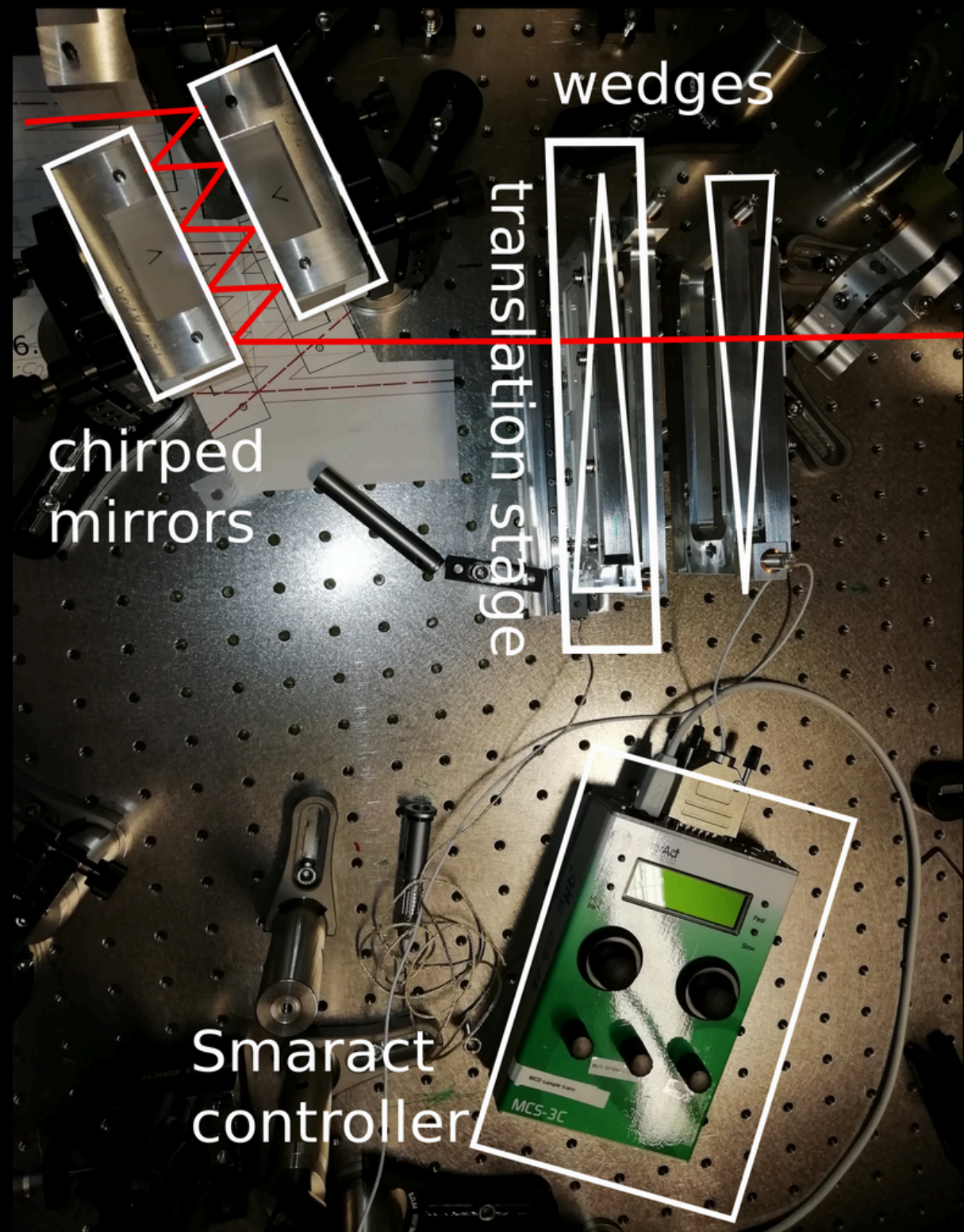
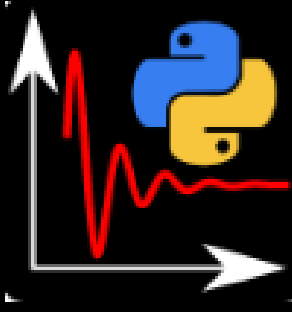


FIG. 7. A typical post-compression setup using a hollow-core fiber, a chirped mirror compressor, and a simple dispersion scan setup.

- Weber, S., & Généaux, R., "Femtosecond pulse shaping and characterization: from simulation to experimental pulse retrieval using a Python-based user friendly interface." à paraître dans le livre femto-UP (EDP Science)
- Geib, N. C., Zilk, M., Pertsch, T. & Eilenberger, F. "Common pulse retrieval algorithm: a fast and universal method to retrieve ultrashort pulses." *Optica* 6, 495 (2019)







+

github/pypret



+

ATTO
Lab

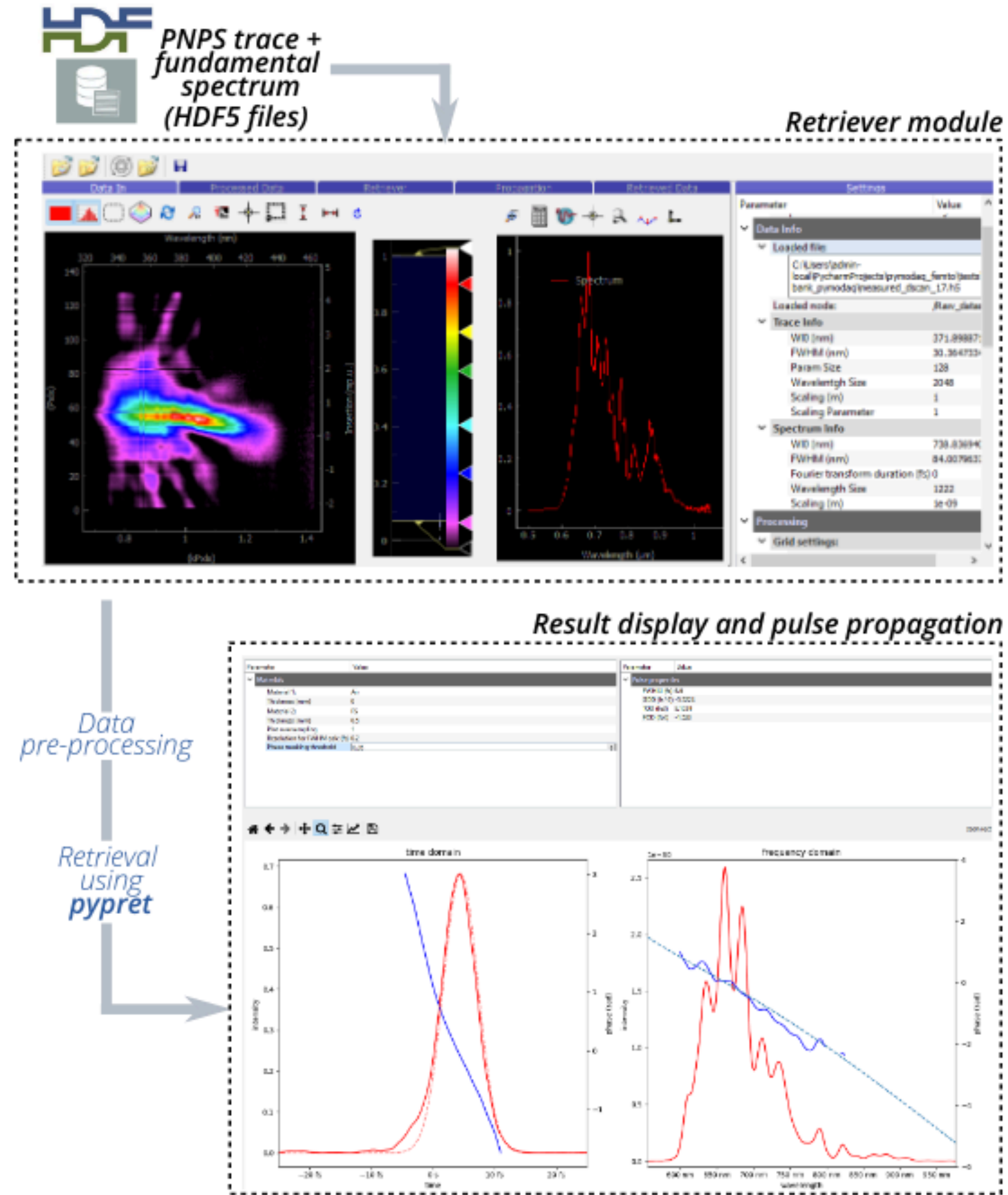
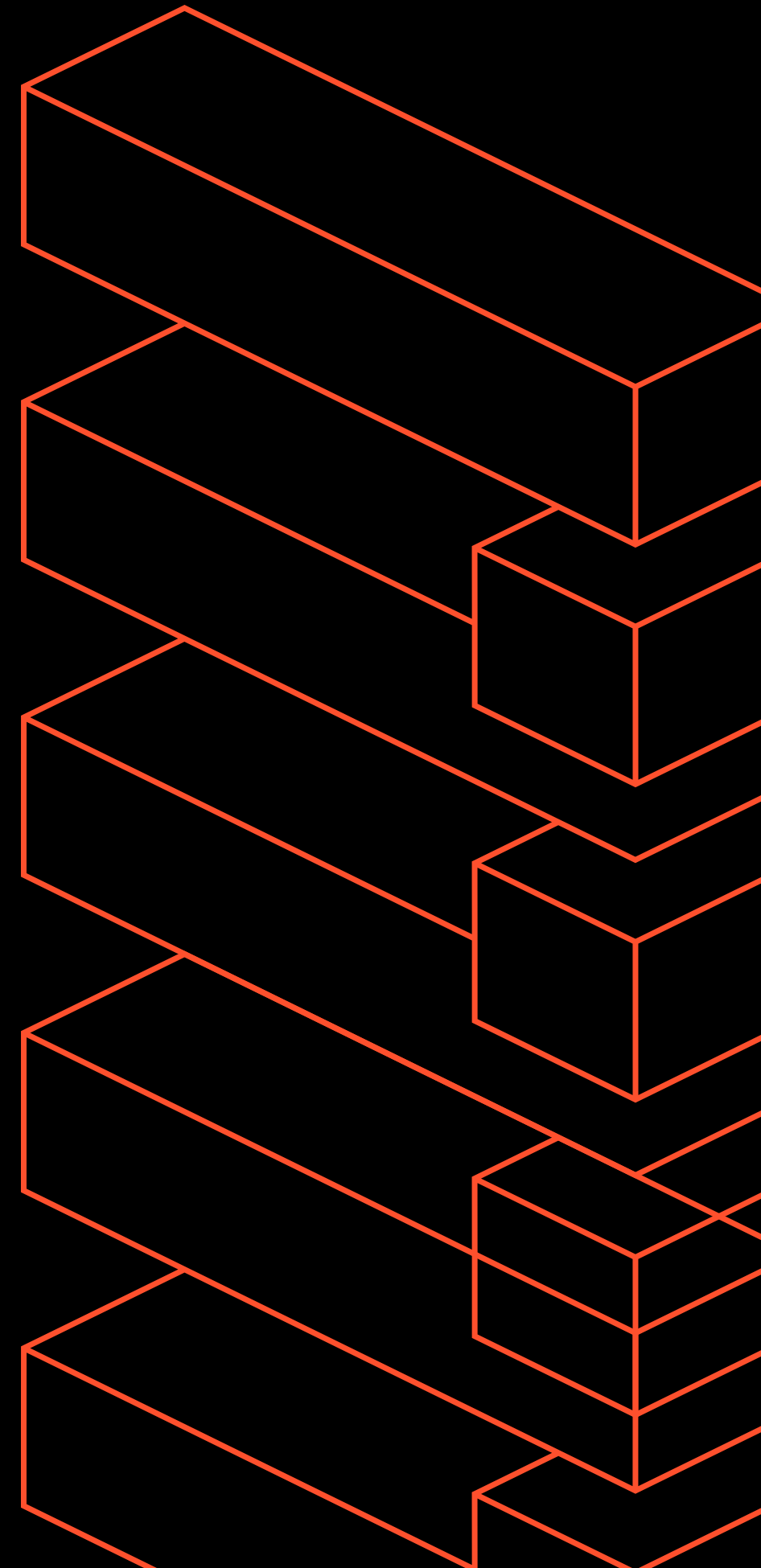


FIG. 9. Structure and workflow of pulse analysis using PyMoDAQ-Femto





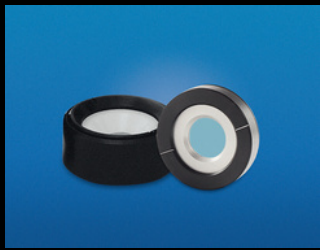
+



4000€



2000€

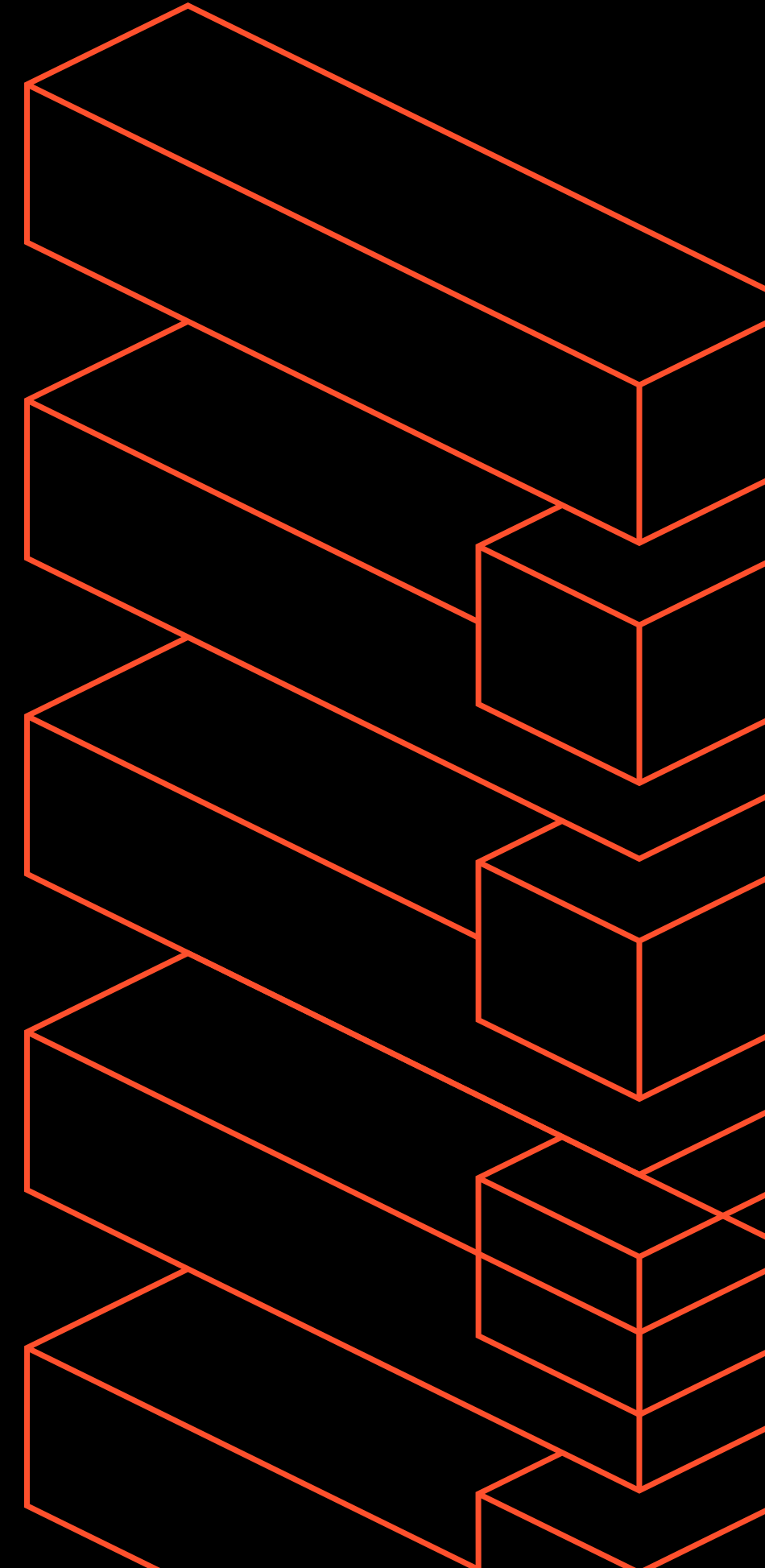


2000€

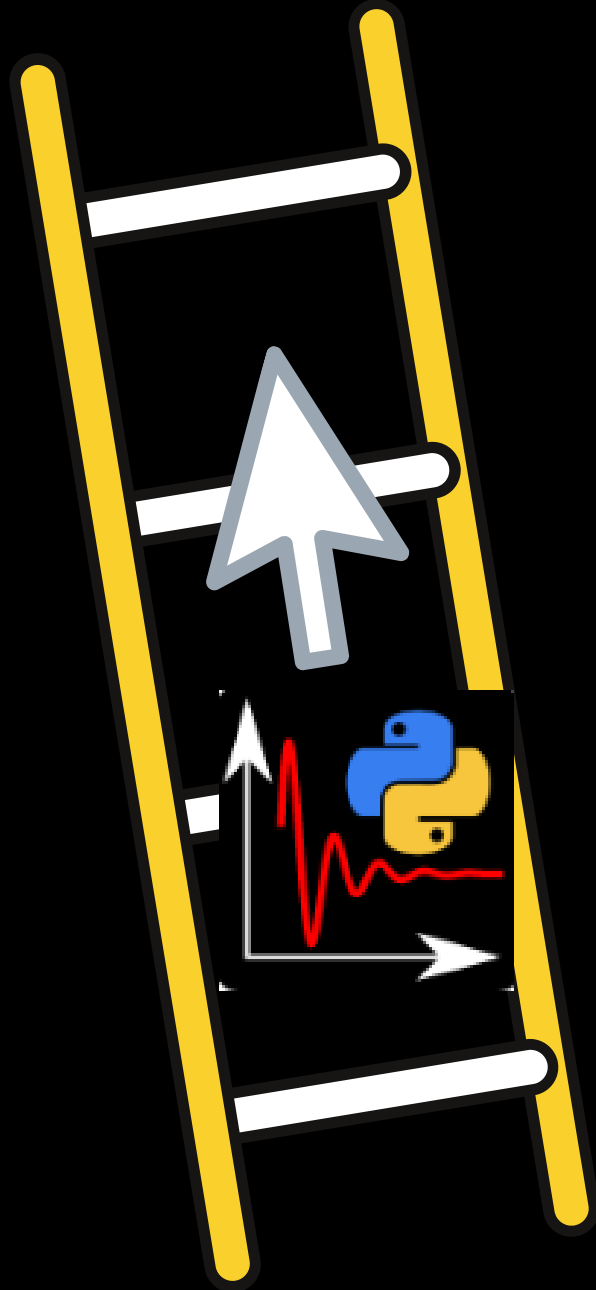


6000€

14000€



SOLUTION COMMERCIALE

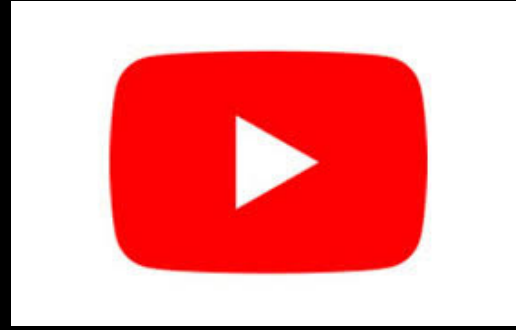


PyMoDAQ

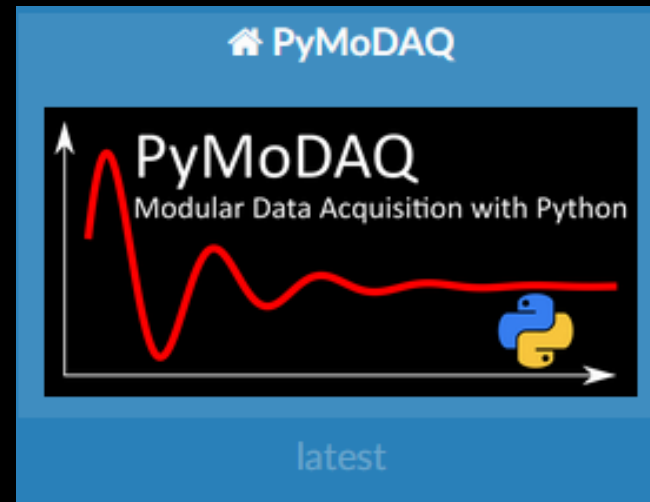
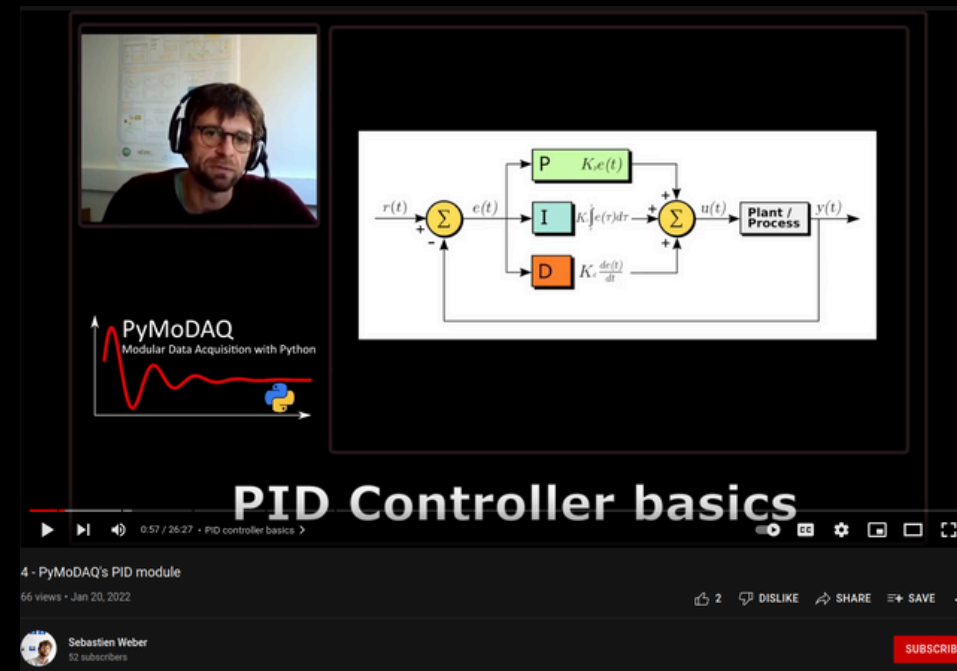
HOME-MADE

fiabilité





Youtube

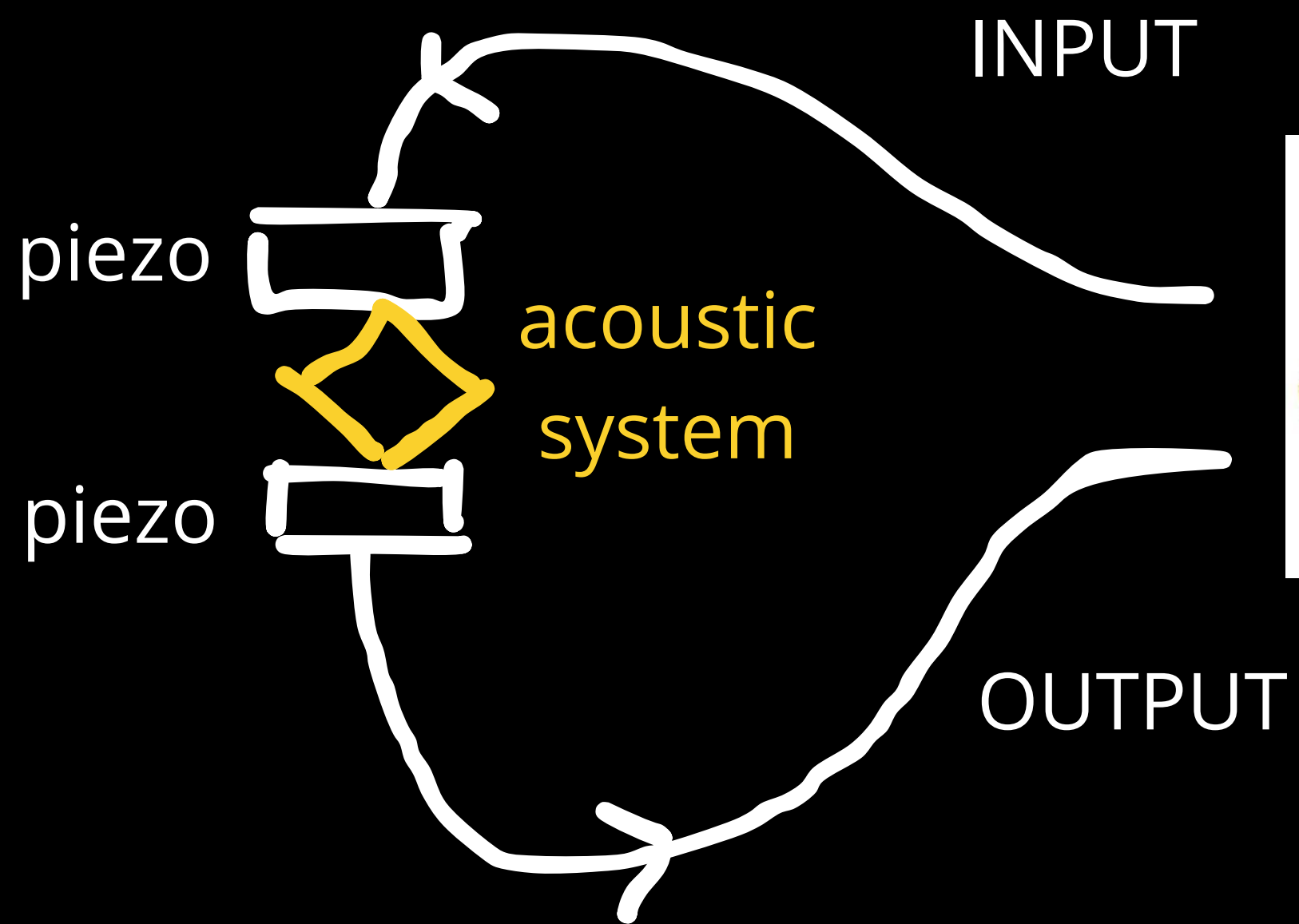


Site officiel
pymodaq.cnrs.fr



Dépôt github
github.com/pymodaq/pymodaq

ATELIER : SPECTROSCOPIE PAR RÉSONANCE ULTRASONORE



Redpitaya



A screenshot of a web browser showing the PyMoDAQ website. The browser's address bar displays 'https://pymodaq.cnrs.fr/en/latest/'. The website has a blue header with the 'PyMoDAQ' logo and a navigation menu. Below the header is a search bar labeled 'Search docs'. A 'CONTENTS:' section lists four items: '1. PyMoDAQ's overview', '2. What's new in PyMoDAQ 4', '3. User's Guide', and '4. Developer's Guide'. The main content area features a video player with a red play button. The video thumbnail shows a man, Sébastien Weber, speaking. The video title is 'PyMoDAQ in two minutes! Modular Data Acquisition with Python'. The video player includes a 'Partager' (Share) button and the CEMES logo with the text 'CENTRE D'ÉLABORATION DE MATÉRIAUX ET D'ÉTUDES STRUCTURALES'. At the bottom of the video player, it says 'Regarder sur YouTube recherche au CEMES - CNRS (Toulouse, FRANCE)'. Below the video player, there is a link: 'French version [here](#)'.

THEY USE IT

