DATAxtended
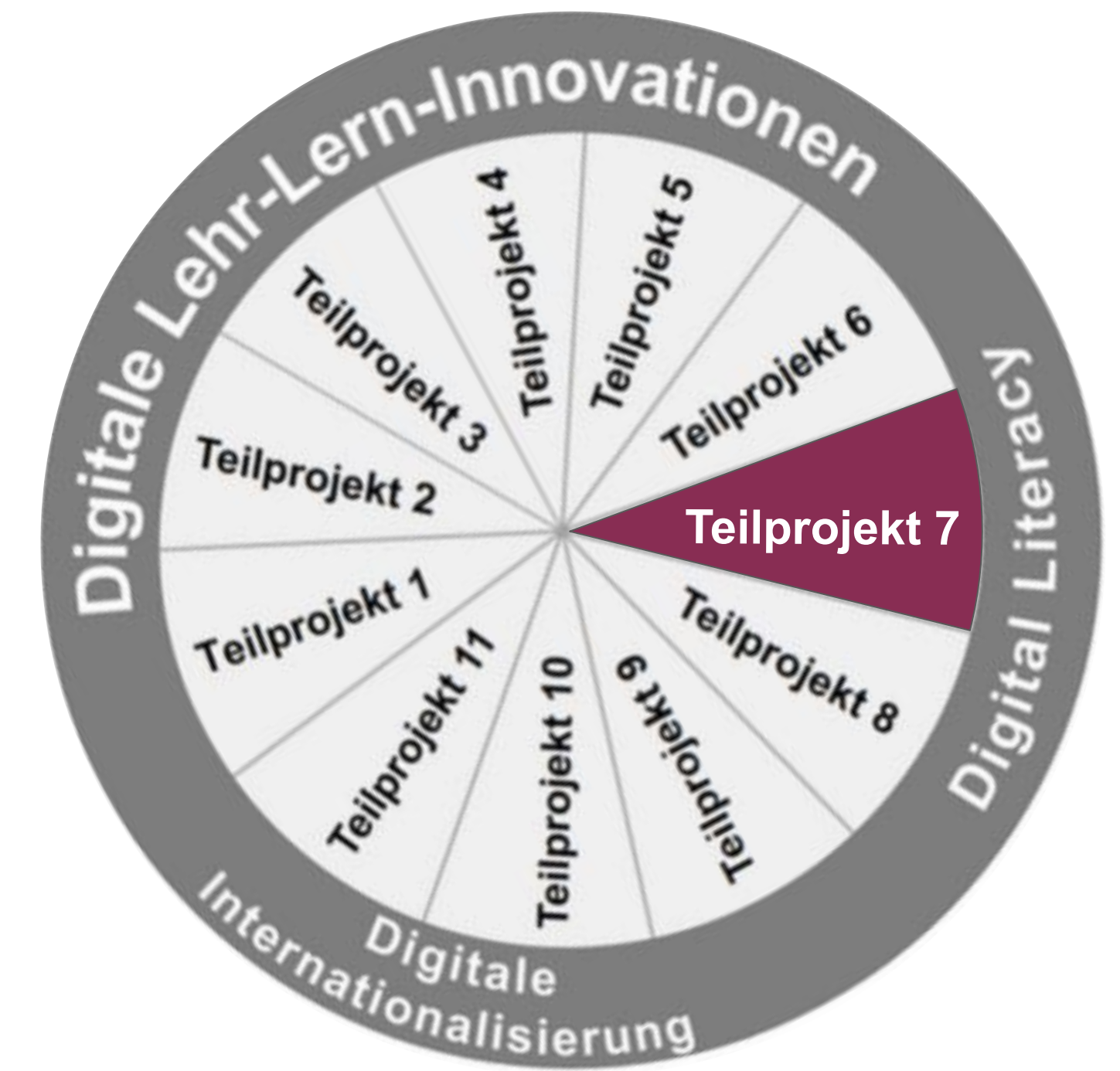
Digital tools fostering data literacy skills in teaching
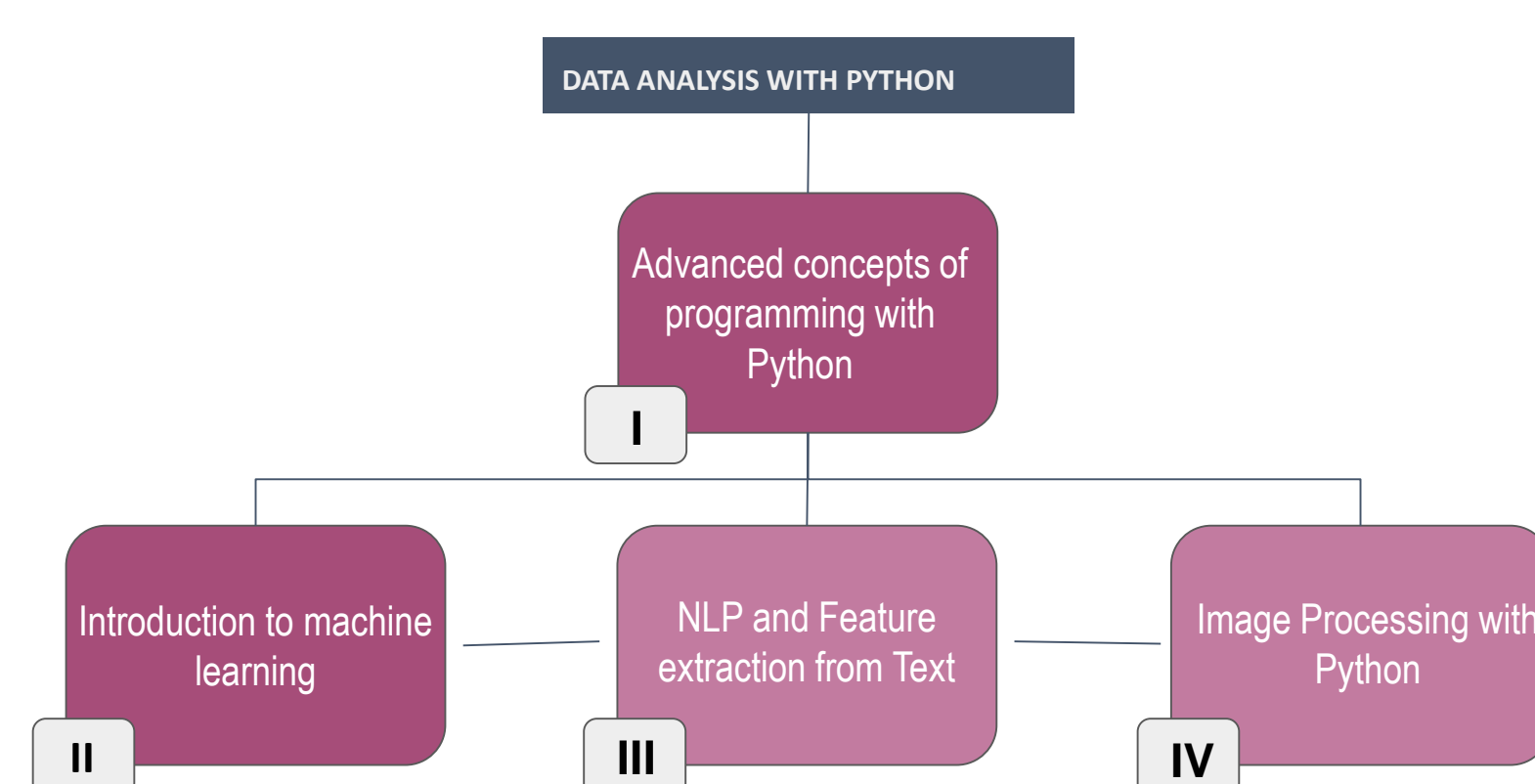
Christoph Wegener, Bermet Usenova, Burkhardt Funk, Francisco Arcila

Digitale Lehr-Lern-Innovationen · Digital Literacy · Digitale Internationalisierung · Teilprojekt 1–11 · **Teilprojekt 7**

AZ1 — Expansion of the Teaching offer

- Implementation of the teaching offer and permanent anchoring in the curriculum.
- Develop the four modules and recruit instructors from the faculties.
- Survey of expected data literacy needs of college students in semesters 2-6.

DATA ANALYSIS WITH PYTHON

- Advanced concepts of programming with Python **I**
  - Introduction to machine learning **II**
  - NLP and Feature extraction from Text **III**
  - Image Processing with Python **IV**

I Programming skills are deepened and an overview of basic computer science concepts are provided.

Follow-up courses

II "Introduction to Machine Learning"
III "NLP and feature extraction from text"
&
IV "Image processing with Python"

All are independent modules that can be taken building on the skills acquired in **I**

AZ2 — New Micro-Teaching Format

Organization and production of modular and target group-oriented online courses to improve data literacy.

- Collection of the teaching material to be digitized
- Creation of teaching materials
- Digitizing courses in form of Videos and Screencasts

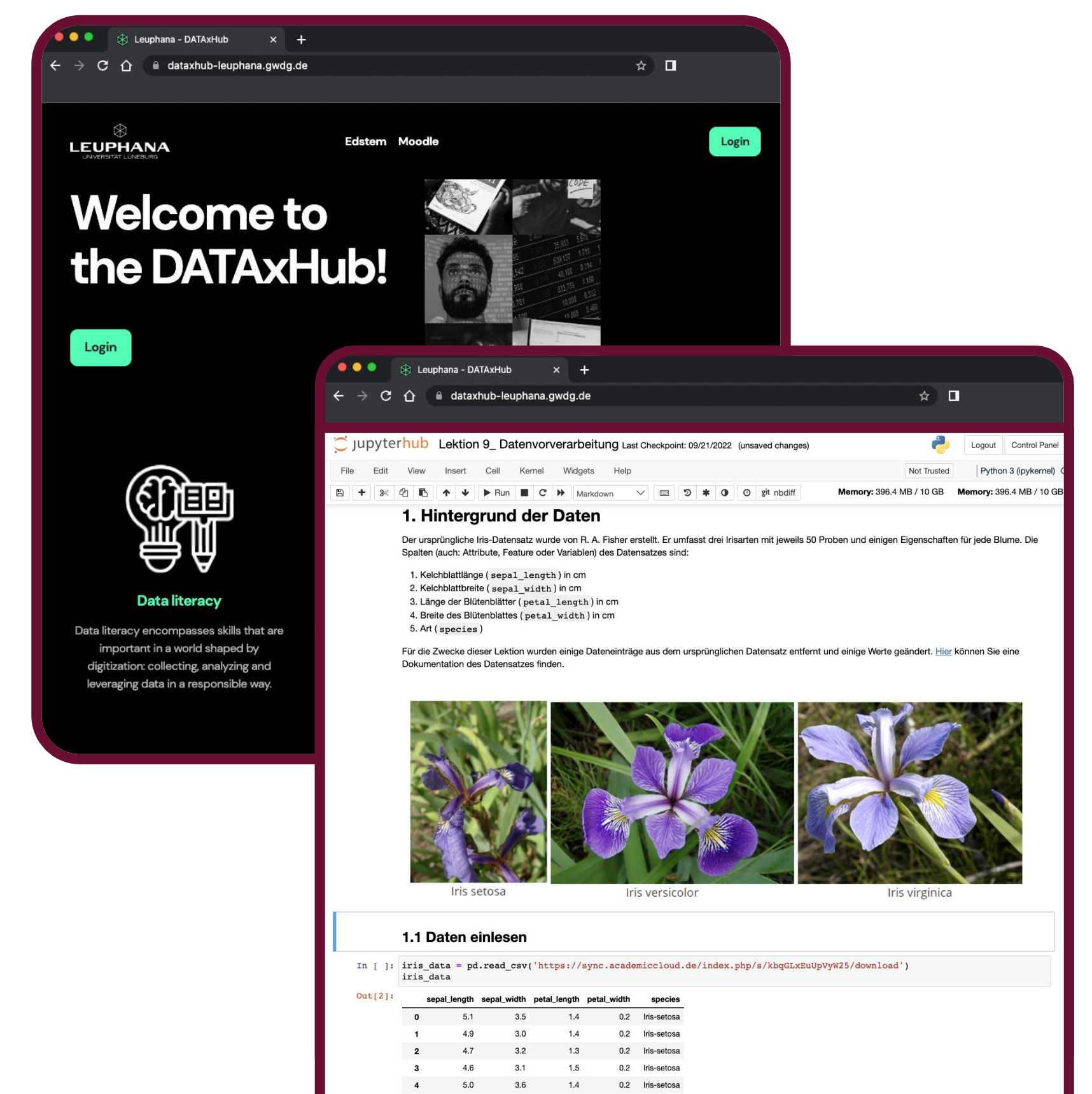### Preparatory math video course for bachelor students

- Course material
- Scripts
- Video production

AZ3 — Teaching and Examination support

DATAxHub gives users access to computational environments and resources for programming with Python without burdening them with installation and maintenance tasks.

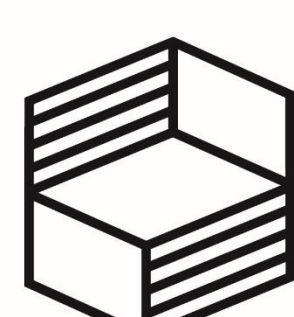**DxHub** — **Hub** for **R&D of tools for the improvement of the teaching experience**

- Automated grading
- Feedback optimization
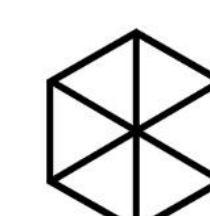

→ **DIGITAL TRANSFORMATION LAB FOR TEACHING AND LEARNING**

Stiftung Innovation in der Hochschullehre

LEUPHANA UNIVERSITÄT LÜNEBURG