VŠB TECHNICKÁ UNIVERZITA OSTRAVA | IT4INNOVATIONS NÁRODNÍ SUPERPOČÍTAČOVÉ CENTRUM

EUDAT KONFERENCE 2026

AI TRAINING APPLICATIONS

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26.11.2026



EuroHPC Joint Undertaking

AI Factories

Spolufinancováno Evropskou unií

MINISTERSTVO ŠKOLSTVÍ, MLÁDEŽE A TĚLOVÝCHOVY

AI TRAINING ON HPC

LUMI AI Factory



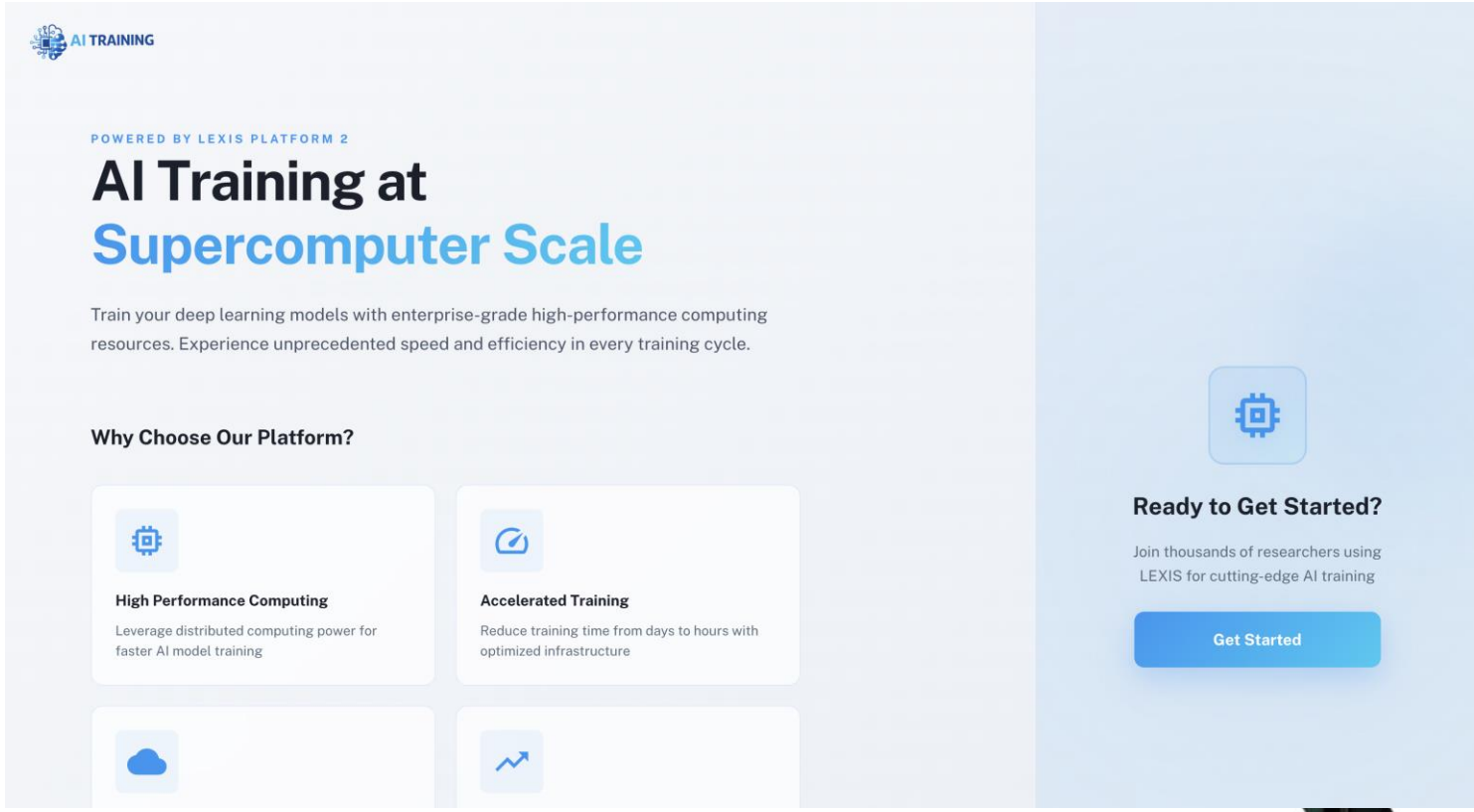
- Choose supercomputer
- Get resource allocation
- Wait for confirmation
- Create account
- Set SSH key
- Know how to work in Linux terminal
- Access supercomputer
- Lear how to work with SLURM batch scheduler
- Learn to use modules
- Learn to work with data on supercomputer
- … finally compute something

FROM PROBLEM TO INNOVATIONS

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LUMI AI Factory

- One button push compute
- Optimized containers
- Automatization and reproducibility
- Centralization – team work
- Safe data management
- Log monitoring
- Model metrics monitoring



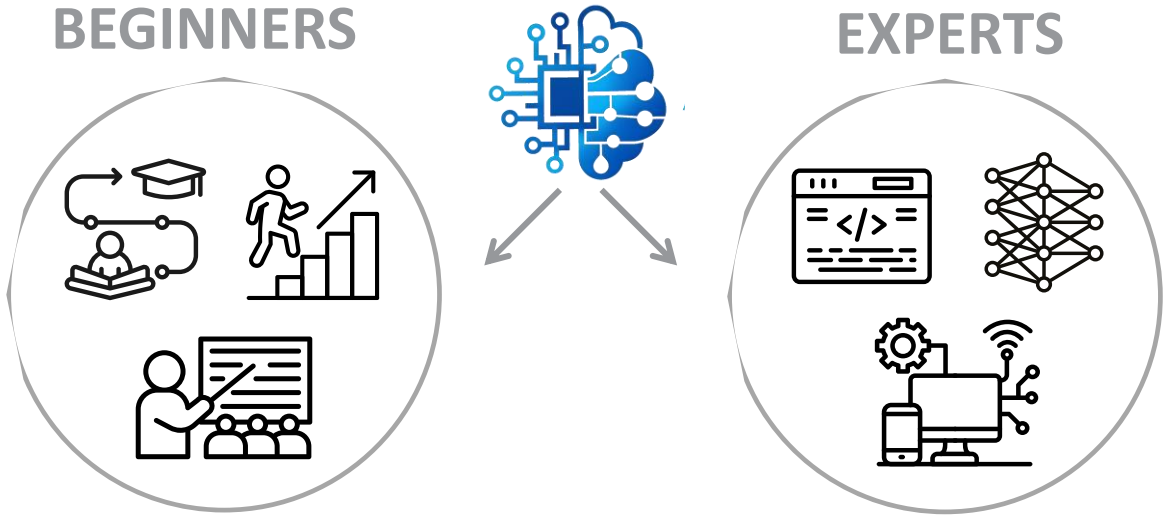
AI TRAINING

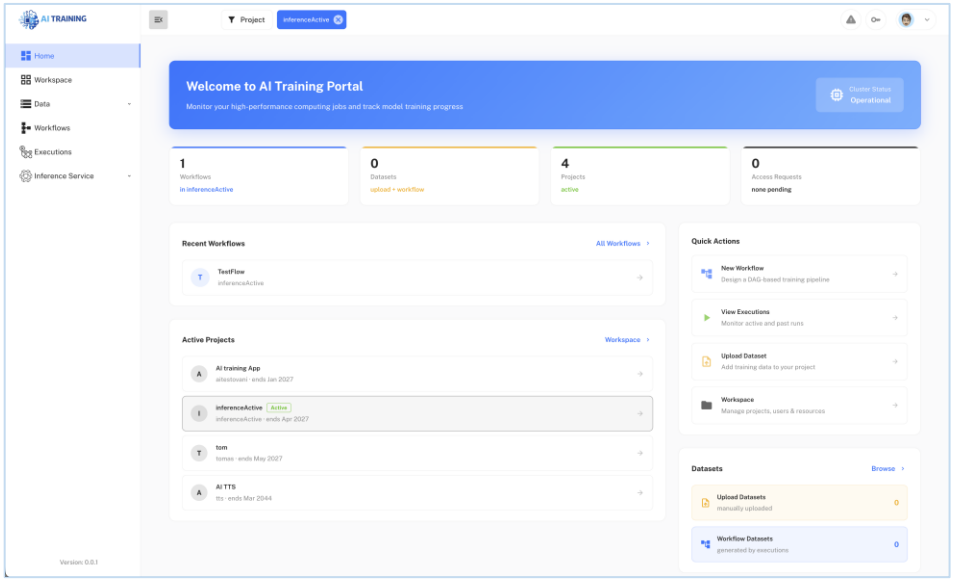
Build on LEXIS Platform:
docs.lexis.tech
opencode.it4i.eu/lexis-platform



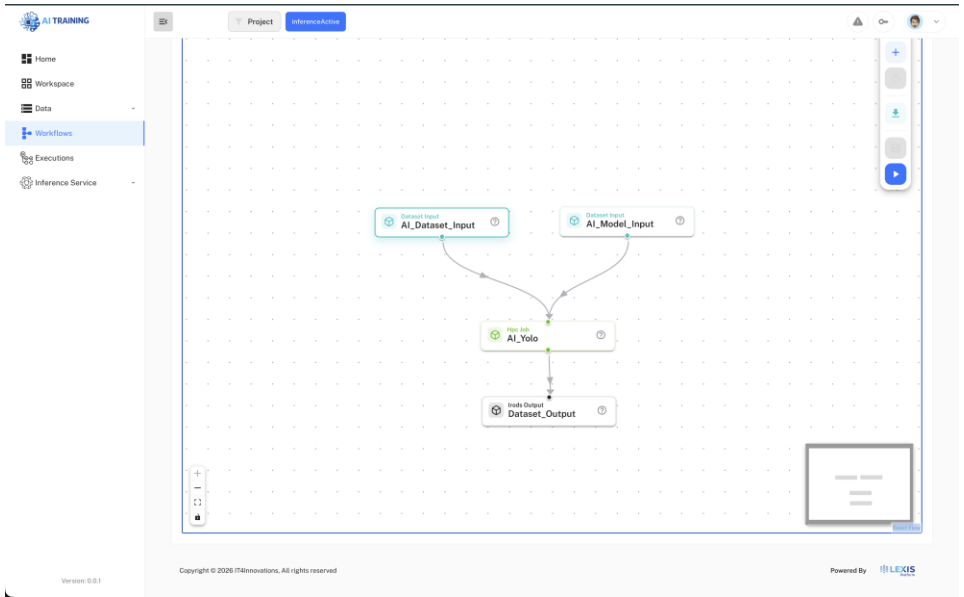
WHO IS THIS FOR?

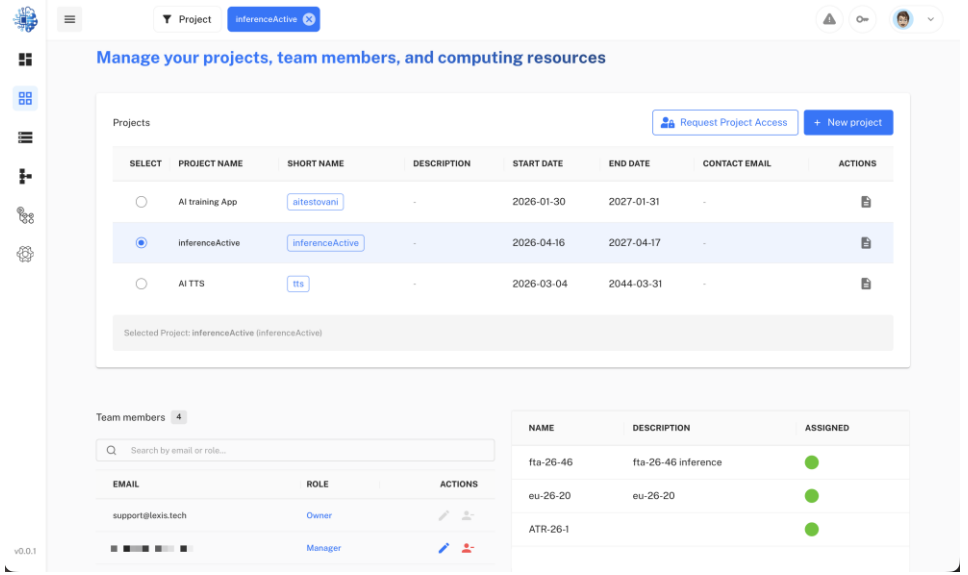
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AI MODEL TRAINING

AI TRAINING

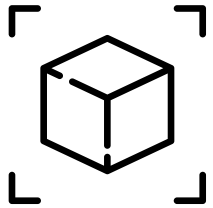
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LUMI AI Factory

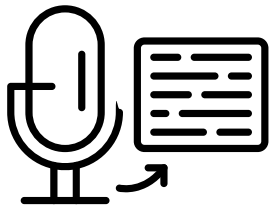
- Job
- Set input parameters and AI model
- Pre-process input data
- Set model hyperparameters
- Train AI model
- Check AI model metrics in MLflow
- Batch inference
- Optimization of AI model hyperparameters
- Final solution

https://aitraining.lexis.tech/

Object Detection and Segmention in image data



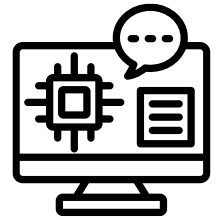
Text-to-speech ad Speech-to-text



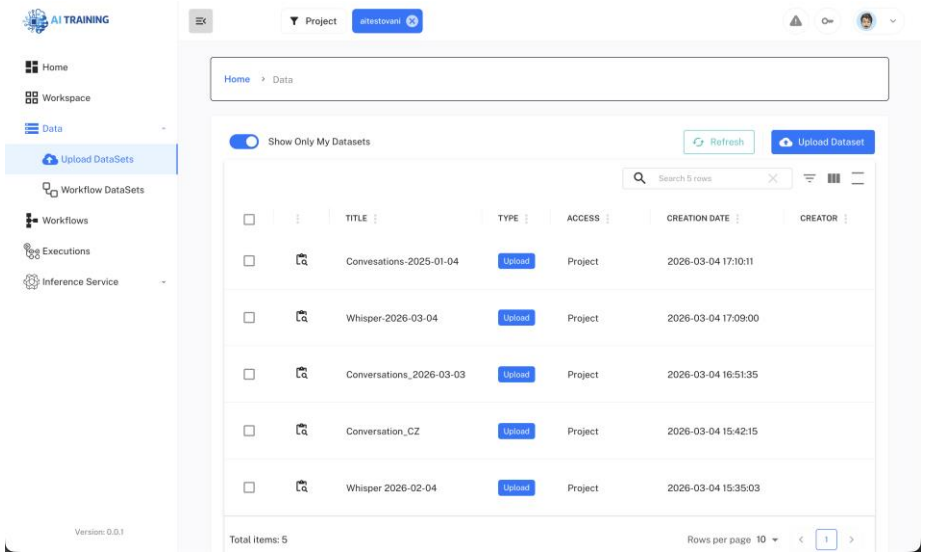
Classification and regression tasks

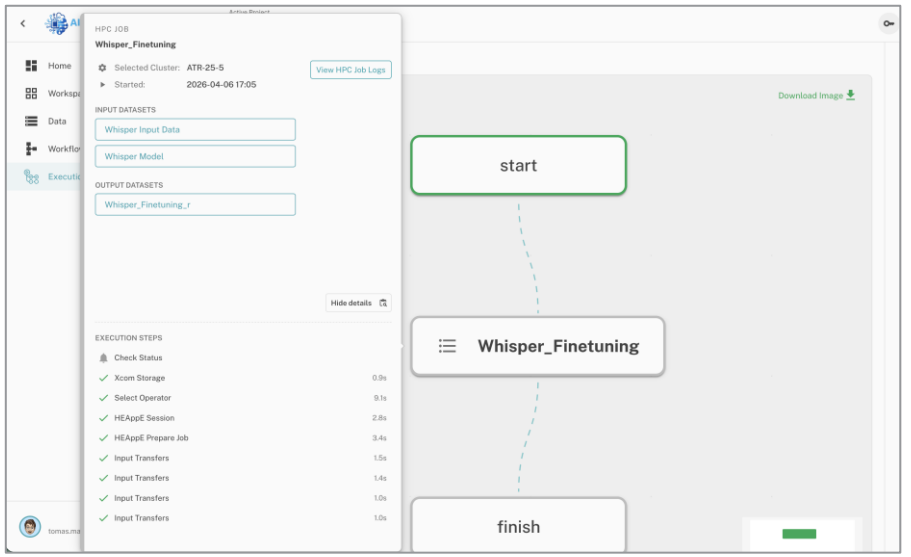


LLM fine-tuning









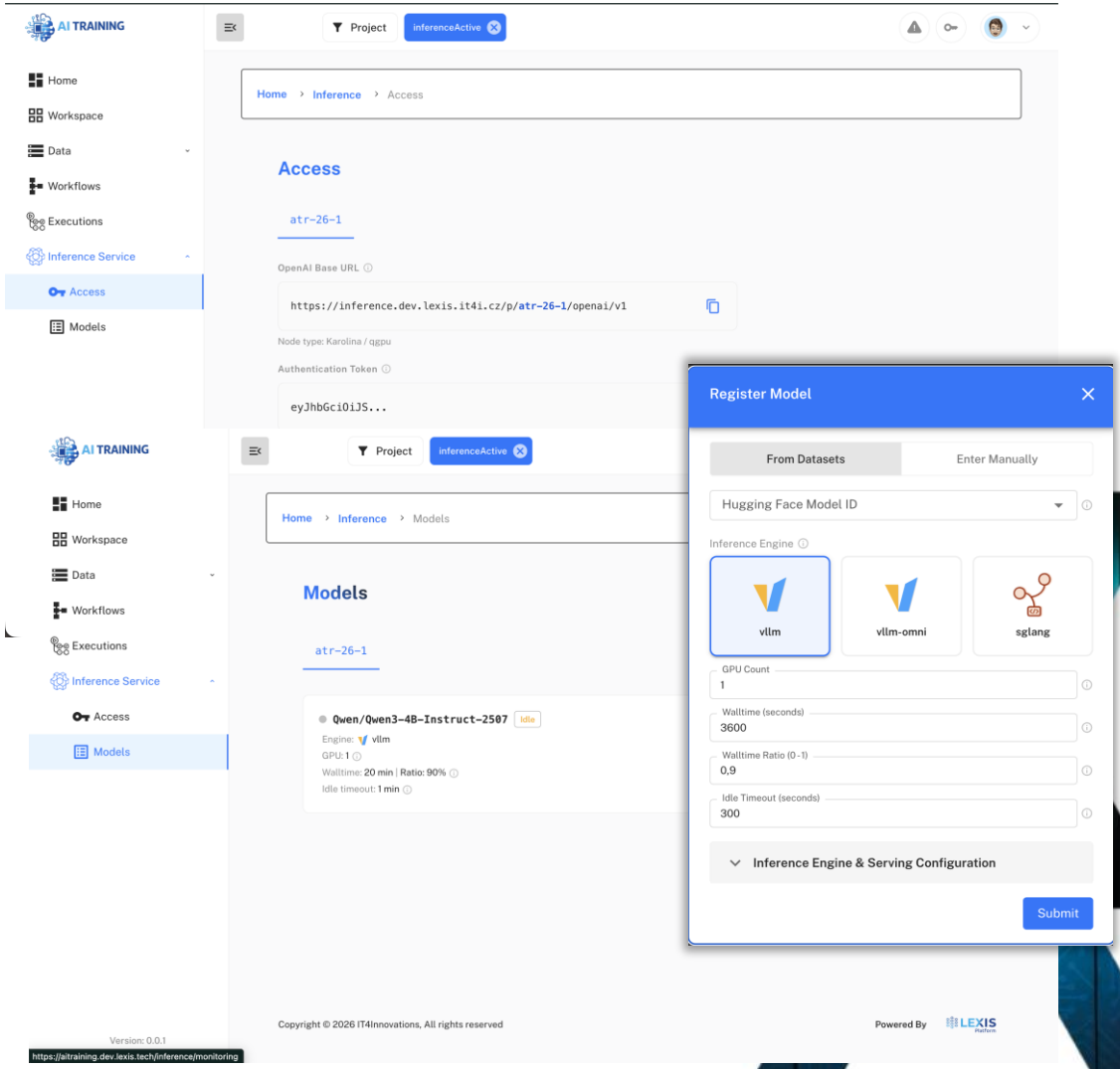
INFERENCE SERVICE

AI TRAINING

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LUMI AI Factory

- OpenAI API compatible
- Supports
  - vLLM
  - SGLang
- Uses HPC center‘s native Slurm scheduler
- Automatic new job allocation in case of continuous usage.
- Model import from HuggingFace and LEXIS DDI



https://aitraining.lexis.tech/
https://inference.exa4mind.eu

VS CODE EXTENSION

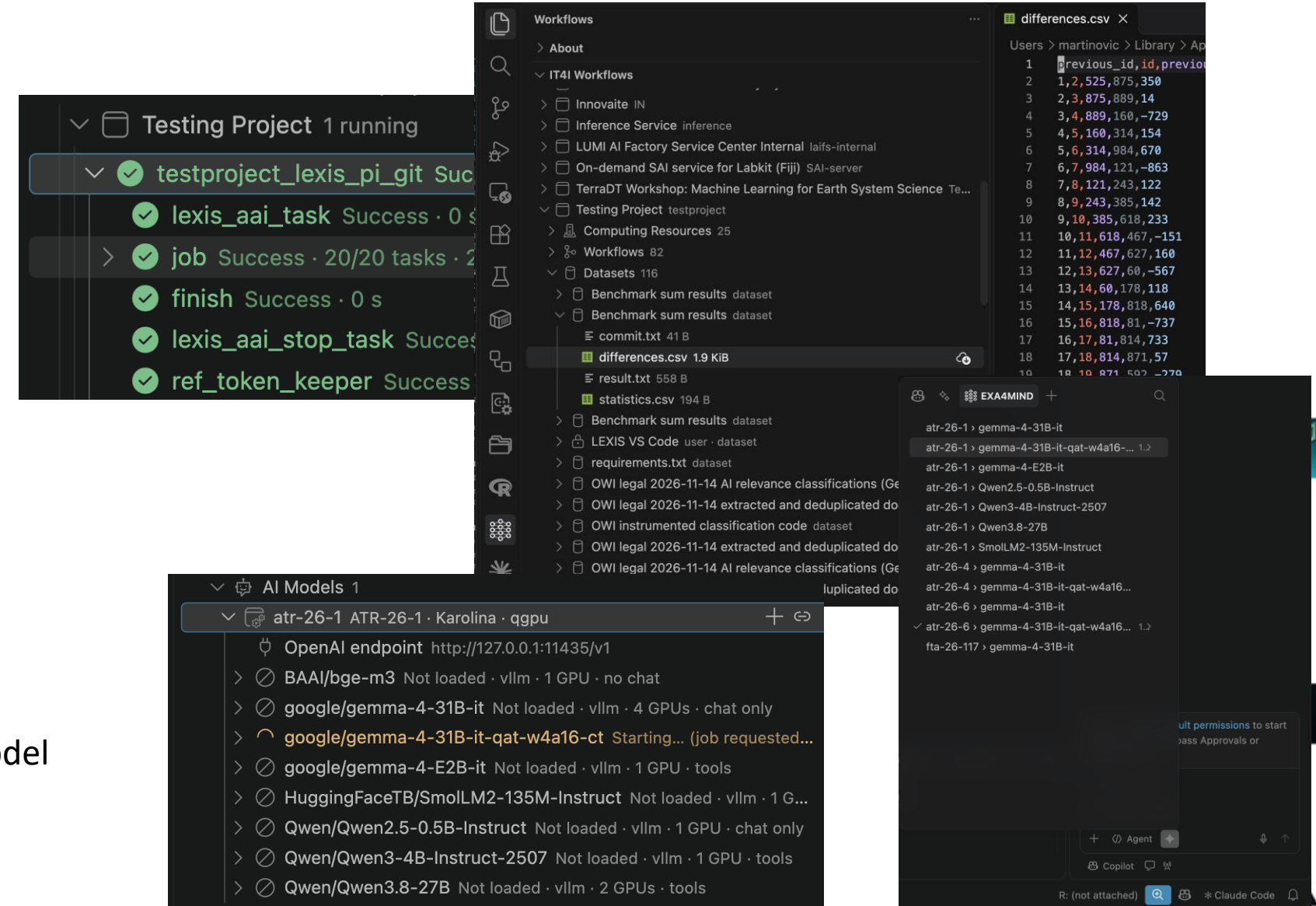
AI TRAINING

In cooperation

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Czech AI Factory

- Projects
  - Manage computational resources
  - Team members
- Datasets
  - Upload from local storage
  - Search uploaded datasets
  - Easy download
- Workflows
  - Execute
  - Monitor runs
- LEXIS MCP for agents
- Inference service
  - Copilot model integration
  - Export token, path, and model to external tools



IN PREPARATION

LUMI AI Factory



New Containers

•

Workflow Templates

•

Updates for VS Code Extension



MLflow integration

•

Model metrics

•

Systém usage monitoring



Improved Model Management

LUMI AI Factory

CONTACT US

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