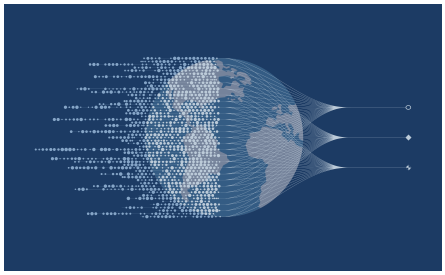

ID: **P3.5-569** Type: **E-poster**

An end-to-end LLM engineering platform for fine-tuning, evaluation and registration of custom models and adapters

Thursday 11 September 2025 11:00 (1 hour)

We present an end-to-end LLM engineering platform for fine-tuning, evaluation and registration of custom models and adapters. Our platform, built on top of open-source tools, provides a comprehensive suite of components for data processing, fine-tuning, evaluation and deployment of LLMs. Key features include pipeline orchestration for batch-oriented workflows, model training and fine-tuning, inferencing and model serving, model lifecycle management, and monitoring and observability. We demonstrate the versatility of our platform through potential applications such as fine-tuning multimodal open-source LLMs on custom datasets for increased accuracy. By providing a unified framework for LLM engineering, our platform aims to accelerate the development and deployment of custom models and adapters, enabling a wide range of innovative applications across CTBTO's technologies. These adapters consist of small collections of model weights that can be dynamically loaded and swapped onto a common base foundation model, enabling it to specialize itself on-the-fly for specific tasks like SHI and RN. Finally, we discuss potential applications that could make use of this platform such as fine-tuning a vision transformer on CTBTO labelled data (images of waveforms showing detections with captioning).

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