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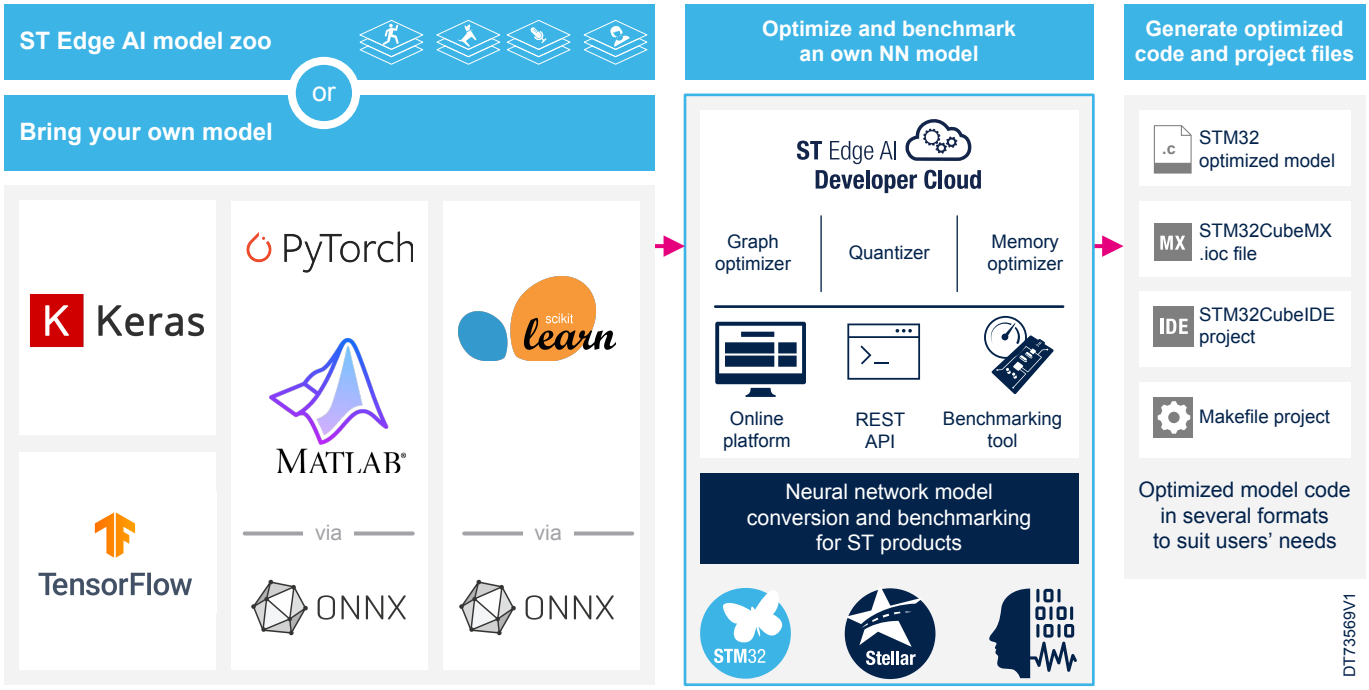
STEDGEAI-DC

Data brief

Artificial intelligence (AI) developer cloud for STMicroelectronics microcontrollers, microprocessors, and smart sensors



Product status link
STEDGEAI-DC

ST Edge AI Developer Cloud

Features

- Online user interface (no installation required) accessible with STMicroelectronics myST extranet user credentials
- Network optimization and visualization providing the RAM and flash memory sizes needed to run on the selected target
- Quantization service to convert a floating-point model into an integer model
- Benchmark service on the STMicroelectronics hosted board farm to make the most suited hardware selection from boards based on STM32, Stellar, and smart sensors with ISPU
- Code generator including the network C code and optionally the makefile or the whole development project for STM32CubeIDE and StellarStudio
- Link to STM32 model zoo for:
  - Easy access to model selection, training script, and key model metrics, directly available for benchmark
  - Application code generator from the user's model with "Getting started" code examples
  - ML workflow automation service with Python™ scripts (REST API)
- Native support for various deep learning frameworks such as Keras and TensorFlow™ Lite, and support for all frameworks that can export to the ONNX standard format such as PyTorch™, MATLAB®, and more
- Support for 32-bit float and 8-bit quantized neural network formats (TensorFlow™ Lite and ONNX tensor-oriented QDQ)
- Support for various built-in scikit-learn models such as isolation forest, support vector machine (SVM), K-means, and more
- Possibility to use larger networks by storing weights in external flash memory and activation buffers in external RAM of STM32 and Stellar devices
- User-friendly license terms

Description

ST Edge AI Developer Cloud (STEDGEAI-DC) is a free-of-charge online platform and services to analyze, optimize, benchmark, and generate artificial intelligence (AI) embedded code for the various STMicroelectronics products (Arm®-based STM32 microcontrollers, and microprocessors, Arm®-based Stellar microcontrollers, and smart sensors with ISPU). It can leverage AI hardware acceleration (neural processing unit, NPU) whenever available in the target hardware.

STEDGEAI-DC allows an automatic conversion of pretrained artificial intelligence algorithms, including neural network and classical machine learning models, into the equivalent optimized C code to be embedded in the application. The generated optimized library is then ready for evaluation on real STMicroelectronics products hosted in the STMicroelectronics board farm.

STEDGEAI-DC uses the ST Edge AI Core technology, which is STMicroelectronics technology to optimize NN models for any STMicroelectronics products with AI capabilities. Find ST Edge AI Developer Cloud at stm32ai-cs.st.com.

ST Edge AI Suite

The ST Edge AI Developer Cloud is part of STMicroelectronics ST Edge AI Suite, which is an integrated collection of software tools designed to facilitate the development and deployment of embedded AI applications. This comprehensive suite supports both optimization and deployment of machine learning algorithms and neural network models, from data collection to the final deployment on hardware, streamlining the workflow for professionals across various disciplines.

The ST Edge AI Suite supports various STMicroelectronics products: STM32 microcontrollers and microprocessors, Stellar microcontrollers, and smart sensors.

The ST Edge AI Suite represents a strategic move to democratize edge AI technology, making it a pivotal resource for developers looking to harness the power of AI in embedded systems efficiently and effectively.

Note: Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.

1 Access information

Free access to STEDGEAI-DC is available at stm32ai-cs.st.com. Log in with STMicroelectronics myST extranet credentials.

Revision history

Table 1. **Document revision history**

Date	Revision	Changes
06-Jun-2024	1	Initial release.