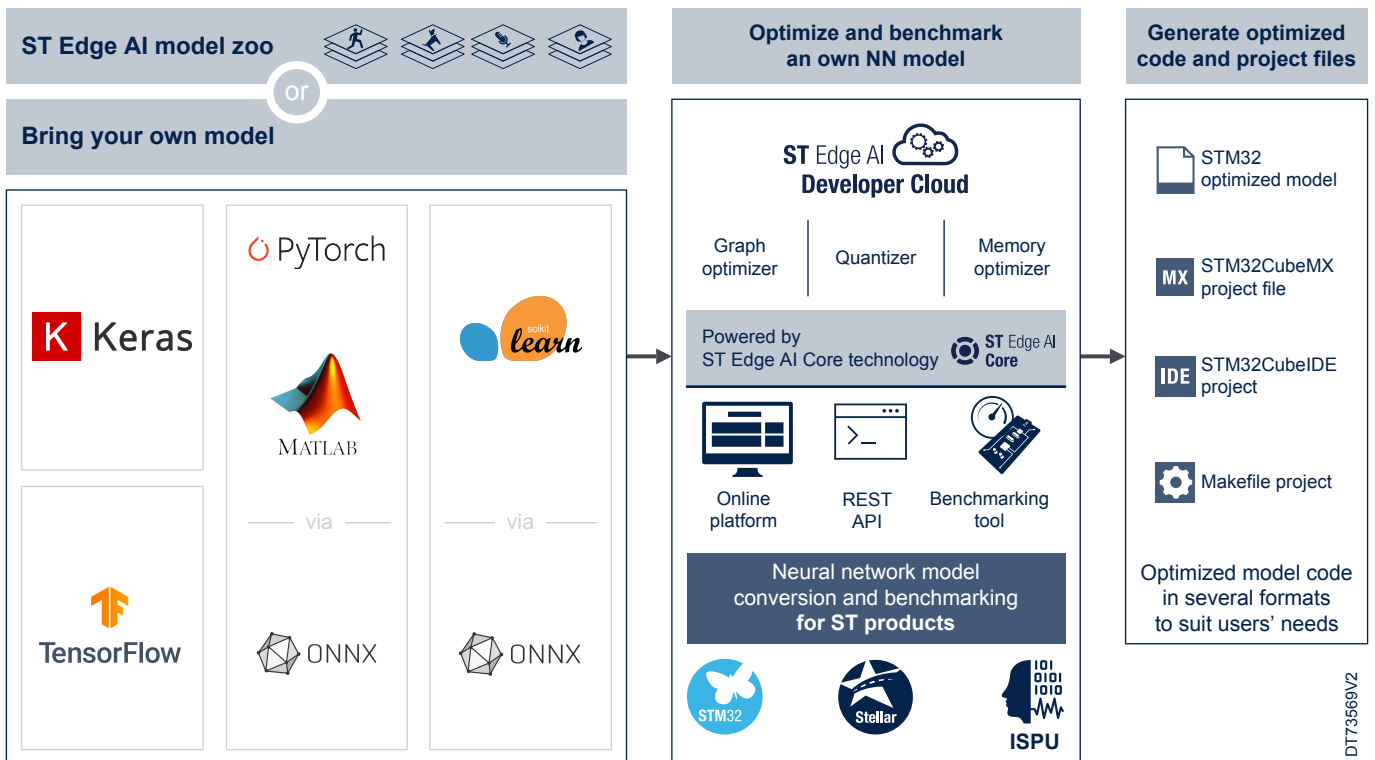


Artificial intelligence (AI) developer cloud for STMicroelectronics microcontrollers, Neural-ART Accelerator, microprocessors, and smart sensors



DT73569V2

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 evaluate AI performance on STMicroelectronics products including STM32 microcontrollers and microprocessors, Neural-ART Accelerator, Stellar microcontrollers, and smart sensors with ISPU
- Support of STMicroelectronics Neural-ART Accelerator neural processing unit (NPU) for AI/ML model acceleration in hardware
- 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
- Free of charge, 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, Neural-ART Accelerator, Arm®-based Stellar microcontrollers, and smart sensors with ISPU).

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.

When optimizing NN models for the Neural-ART Accelerator NPU, the tool generates the microcode that maps AI operations on the NPU when possible, or fall back to the CPU. This scheduling is done at the operators level to maximize AI hardware acceleration.

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 stedgeai-dc.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, Neural-ART Accelerator, 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](https://stedgeai-dc.st.com/home) is available at stedgeai-dc.st.com/home. Log in with STMicroelectronics myST extranet credentials.

Revision history

Table 1. Document revision history

Date	Revision	Changes
07-Jun-2024	1	Initial release.
02-Dec-2024	2	Added the support for Neural-ART Accelerator: <ul style="list-style-type: none">• Updated document title and cover image• Updated Features and Description

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