

## Ashling and Embecosm Extend PyTorch AI to RISC-V Embedded Devices

**October 22, 2025 – RISC-V North American Summit, Santa Clara.** Ashling and Embecosm today announced robust ExecuTorch implementations optimised for resource-constrained devices, including RISC-V based microcontrollers. The collaboration enables developers to deploy and run PyTorch-based AI models efficiently on bare-metal and embedded targets, bringing advanced AI inference to the edge.

### From PyTorch to ExecuTorch on Edge Devices



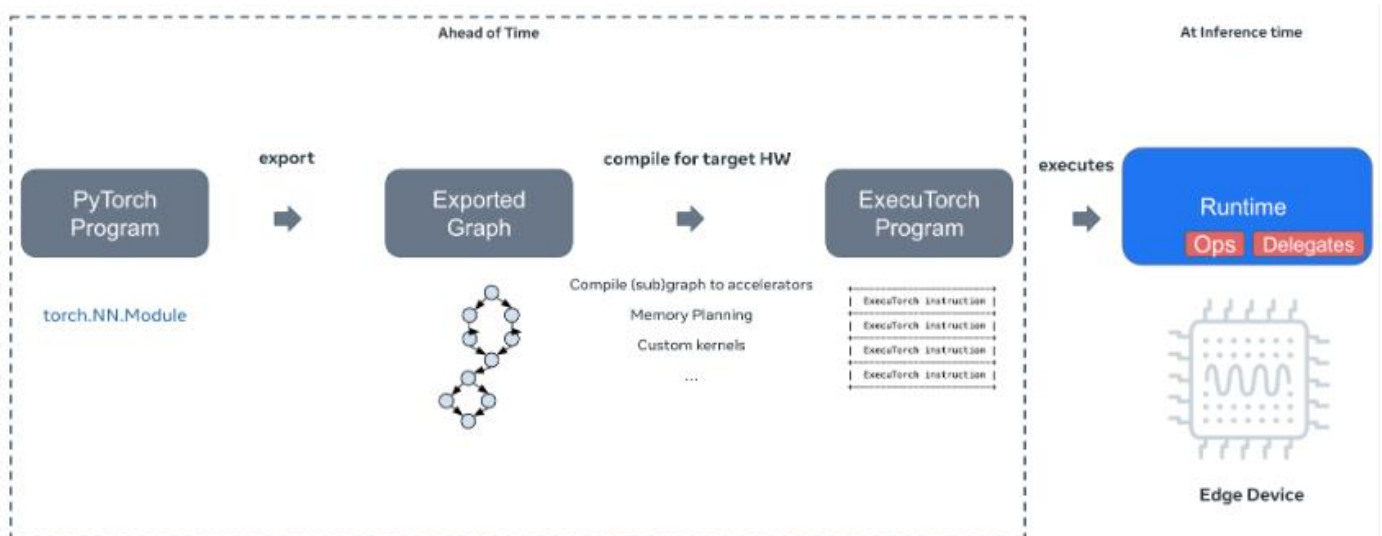
#### What is PyTorch?

PyTorch is an open-source software framework that developers use to **build, train** and **run** AI models. Launched in 2016 by Meta and written with a very *Pythonic* feel, it is popular because it is easy to read, quick to iterate, and powerful enough for innovative research and large-scale production. The ecosystem includes well-known libraries for vision and audio, plus a vast community that contributes examples, pretrained models, and best practices.

#### Where does ExecuTorch Fit In?

ExecuTorch is a lightweight runtime that lets PyTorch models **run** on mobile and embedded systems including bare-metal microcontrollers that lack the capacity to run a full operating system such as Android or Linux. Crucially for embedded and edge use cases, PyTorch also supports exporting trained models into compact formats and lower-precision numeric types (e.g., INT8). That is what enables the ExecuTorch workflow: start with familiar PyTorch *training*, *export* the model, then *run* it at the edge using lightweight runtimes tailored to phones, microcontrollers, and custom silicon. Running AI at the edge means running it directly on the device that is close to the sensor or user and gives many benefits including:

- **Lower latency:** decisions happen locally, not round-tripping to the cloud.
- **Privacy & reliability:** data stays on the device; works even when offline.
- **Efficiency:** designed for tight CPU, memory, and power budgets.



**Figure 1. The ExecuTorch Runtime running on an Edge Device**

(source: <https://docs.pytorch.org/executorch/stable/intro-how-it-works>)

## Interested in Learning More?

At **Ashling** and **Embecosm**, we deliver robust ExecuTorch implementations tailored to your device or microcontroller, including bare-metal deployments that run efficiently within your platform's resource limits. If you are exploring ExecuTorch on constrained **edge** devices and would like to discuss further then why not book an engineer-to-engineer call with the Ashling and Embecosm AI experts to learn how we can help with your ExecuTorch and AI toolchain project needs. Just email us at [sales@ashling.com](mailto:sales@ashling.com).

### About Ashling

Ashling is a world leader in tools and solutions for embedded systems and the semiconductor industry. Focused on enabling software design for next generation SoCs, MCUs, and AI accelerators, Ashling delivers advanced debugging tools, trace probes, and integrated development environments that accelerate product innovation and time to market.

With a reputation built over four decades of engineering excellence, Ashling's technologies and services empower developers to design, debug, and perfect complex embedded systems with confidence.

<https://www.ashling.com/contact-ashling/> email:[info@ashling.com](mailto:info@ashling.com).

### About Embecosm

Embecosm is a global leader in open-source compiler, AI toolchain, and custom hardware–software integration solutions for innovative designs. Renowned for its deep ability in GNU GCC, Clang/LLVM and AI toolchain technologies, Embecosm supports a wide range of processor architectures, including RISC-V, Arm and other leading cores.

Embecosm's strengths in compiler and AI toolchain development perfectly complement Ashling's embedded tools and services. Together, the companies have collaborated for more than eight years on global toolchain projects, serving customers from Tier-1 semiconductor leaders to stealth-mode start-ups, from offices in the US, India, UK, Ireland, France, and Germany.

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