



Davide Nadalini

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● WORK EXPERIENCE

01/02/2026 - CURRENT - LEUVEN, BELGIUM

POST-DOC RESEARCHERKU LEUVEN

Dynamic scheduling of Deep Neural Networks (inference) on ultra-low-power RISC-V platforms.

01/11/2024 - 31/01/2026 - BOLOGNA, ITALY

RESEARCH FELLOWARCES - UNIVERSITÀ DI BOLOGNA

On-Device Continual Learning on low-power Internet-of-Things (IoT) devices, based on Microcontrollers. Design and optimization of hardware-software computational kernels for artificial intelligence on ultra-low-power devices. Monocular Depth Estimation for low-resolution IoT vision systems.

01/11/2021 - 27/08/2025 - BOLOGNA, ITALY

PHD STUDENTPOLITECNICO DI TORINO, UNIVERSITÀ DI BOLOGNA

Development and optimization of methodologies and backend for On-Device Learning on multicore RISC-V Parallel Ultra-Low-Power (PULP) devices. Main developer and maintainer of the open-source project PULP-TrainLib (<https://github.com/pulp-platform/pulp-trainlib>).

Website: <https://www.pulp-platform.org/>

01/03/2024 - 31/08/2024 - LUGANO, SWITZERLAND

VISITING STUDENTUSI-SUPSI IDSIA - ISTITUTO DALLE MOLLE DI STUDI SULL'INTELLIGENZA ARTIFICIALE

Research and development of a computer-vision-based On-Device Learning pipeline for adaptive autonomous navigation of nano-sized drones equipped with Ultra-Low-Power RISC-V multi-core microcontrollers.

01/04/2021 - 31/10/2021 - BOLOGNA, ITALY

RESEARCH FELLOWARCES - UNIVERSITÀ DI BOLOGNA

Mixed Precision training of Deep Neural Networks (DNN) models for mobile applications. Design and optimization of computational kernels and primitives for DNNs for Multicore Ultra-Low-Power (MCU-class) RISC-V and ARM-based devices.

● EDUCATION & TRAINING

09/2018 - 03/2021

MASTER'S DEGREE - ELECTRONICS ENGINEERING- ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA

Final grade: 110/110 | **Thesis:** Mixed Precision Online Learning on a Parallel Ultra Low Power Platform

09/2012 - 07/2018

BACHELOR'S DEGREE - ELECTRONICS AND TELECOMMUNICATIONS ENGINEERING- ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA

Final grade: 97/110 | **Thesis:** Modulatore Phase-Shifted per Z-Source Full-Bridge Inverters

● PUBLICATIONS

Multi-modal On-Device Learning for Monocular Depth Estimation on Ultra-low-power MCUs

IEEE Internet of Things Journal.

Structured Sparse Back-propagation for Lightweight On-Device Continual Learning on Microcontroller Units

.
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition.

Compressed Latent Replays for Lightweight Continual Learning on Spiking Neural Networks 2024

DOI: 10.48550/arXiv.2407.03111

Reduced Precision Floating-Point Optimization for Deep Neural Network On-Device Learning on MicroControllers

DOI: 10.1016/j.future.2023.07.020

Future Generation Computer Systems.

PULP-TrainLib: Enabling on-device training for RISC-V multi-core MCUs through performance-driven Autotuning

A TinyML Platform for On-Device Continual Learning With Quantized Latent Replays 2021

DOI: 10.1109/JETCAS.2021.3121554.

● CONFERENCES & SEMINARS

25/03/2024 - 27/03/2024 Av. de les Corts Valencianes, 60, 46015 València, Spagna

Design, Automation and Test in Europe (DATE) Conference 2024 On-Device Continual Learning tutorial presenter at a sector-leader conference.

Link <https://date24.date-conference.com/embedded-tutorial/et02>

26/06/2023 - 28/06/2023 Marriott Hotel, Amsterdam, Netherlands

TinyML EMEA Innovation Forum

Link <https://www.tinyml.org/event/emea-2023/>

05/06/2023 - 06/06/2023 USI Lugano, West Campus, Lugano, Svizzera

10 Years of PULP

Link <https://pulp-platform.org/10years/>

10/07/2022 - 14/07/2022 Moscone Center West, San Francisco, California, USA

Design Automation Conference (DAC)

Link <https://www.dac.com/>

03/07/2022 - 07/07/2022 Doryssa Seaside Resort, Pythagorion, Samo, Grecia

SAMOS XXII Conference

Link <https://samos-conference.com/wp/>

● LANGUAGE SKILLS

Mother tongue(s): ITALIAN

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken production	Spoken interaction	

ENGLISH	C1	C1	C1	C1	C1
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