Speaker
Danilo Pietro Pau
Technical director, IEEE, and ST Fellow
System Research and Applications
STMicroelectronics
Agrate Brianza, Italy.

Methodology and tools to achieve neural networks fast deployment on STM32 Nucleo Image classifier case study

Bio
Danilo Pau graduated in Electronic Engineering at Politecnico di Milano on 1992. Since 1991 he is with STMicroelectronics Italy, System Research. He worked on HDMAC hardware design and MPEG2 video memory reduction, then on video coding and transcoding, next on embedded 3D and VG graphics, and computer vision with hand-crated algorithms. Currently, his focus is on the development of tools to bridge deep learning frameworks with resource constrained applications on micro-controllers and sensors. Since 2019 Danilo is an IEEE Fellow. He currently serves IEEE Region 8 Action for Industry focused on the Internship initiative. He is also a Member of the Machine Learning, Deep Learning and AI in the CE (MDA) Technical Stream Committee IEEE Consumer Electronics Society (CESoc).
With over 81 patents, 116 publications (h-index 24, i10-index 52), 113 MPEG authored documents and 43 invited talks/seminars at various worldwide Universities and Conferences, Danilo's favorite activity remains mentoring undergraduate students, MSc and PhD, from various universities.

Abstract
To address the challenges and opportunities in applying neural networks for micro controllers, highest productivity shall be achieved when developing applications. Therefore, the talk will describe a 5-steps methodology applied to image classification case study by using a set of tools to automatically deploy pre-trained neural networks on STM32 Nucleo board and using off the shelf webcam. A set of exemplary case studies can be derived as useful starting point for AI practitioners.