

Who's Who in TinyML3?!

Hi, there!

Welcome to Course 3 of the TinyML EdX series! This is where the pedal meets the metal!

Course 1 (“Fundamentals of TinyML”) laid out the building blocks and established the language for tiny machine learning. Course 2 (“Applications of TinyML”) introduced you to several use cases of TinyML in the real world and taught you how to train tiny machine learning models. Along the way, you also learned about many core concepts including quantization and model conversion. In Course 3 (“Deploying TinyML”), we are going to close the loop and talk about deploying ML models onto microcontrollers (MCUs).

Pete Warden and I (along with the help of our staff) will be taking you through the journey of deploying end-to-end TinyML applications on a Nordic Semiconductor nRF52840 MCU using TensorFlow Lite for Microcontrollers (TFLM). The MCU has a ARM Cortex-M4 32-bit processor with FPU, 64 MHz with 1 MB flash and 256 kB RAM. It has a range of diverse applications for the Internet of things (IoT). This MCU is seated on your Arduino Nano 33 BLE sense development board, which aggregates a wide variety of sensors onboard. Combining those on-board sensors with the OV7675 camera module, you’ll be able to deploy many of the TinyML applications you’ve seen previously along with new ones!

Long story short, our mission in this course is simple: we want to enable you to develop and build end-to-end TinyML applications using TensorFlow Lite for Microcontrollers.

Sincerely,

Vijay.

Instructors

 A professional headshot of a man with dark hair and glasses, wearing a black jacket over a white shirt and a red and black plaid scarf.	<p>Vijay Janapa Reddi Associate Professor Harvard University</p>
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	<p>Laurence Moroney Lead AI Advocate Google</p>
	<p>Pete Warden Technical lead of TensorFlow Mobile and Embedded, Google</p>

Guest Instructor

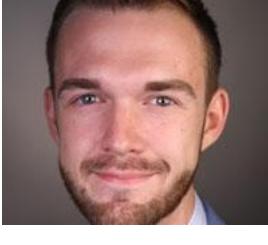
	<p>Susan Kennedy, Ph.D. Harvard University</p>
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Teaching Staff

	<p>Brian Plancher, Ph. D. Candidate Harvard University</p>
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	Dhilan Ramaprasad, A.B. Candidate in EE/CS Harvard University
	Matthew Stewart, Ph.D. Student Harvard University
	Colby Banbury, Ph.D. Student Harvard University

Lab Staff

	J. Evan Smith, Electrical Engineer for Active Learning Harvard University
	Benjamin Brown, Electronics Shop Engineer Harvard University

Acknowledgments

- Mark Mazumder, Harvard University