TinyML Seminar #3

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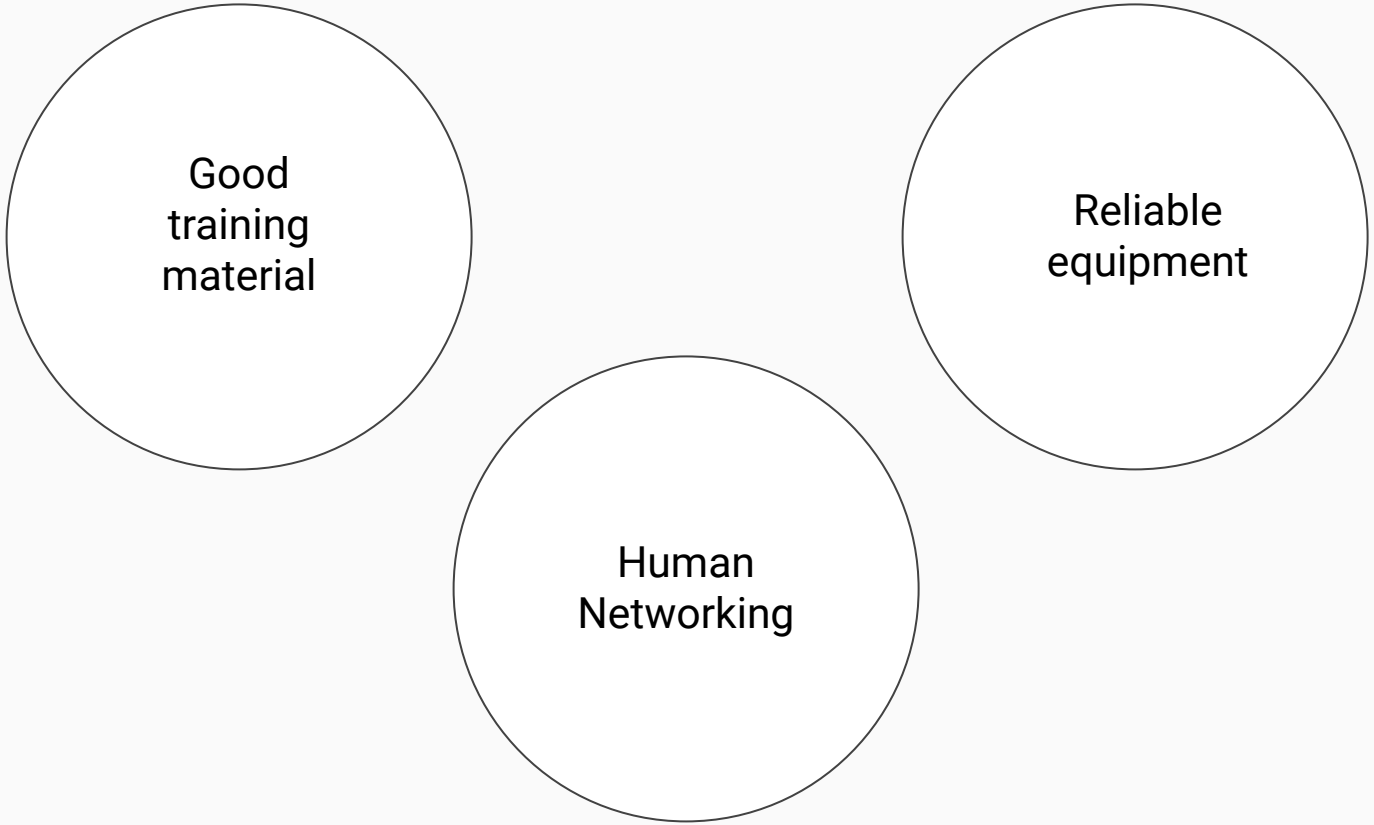
Why a TinyML Academic Network?

We aim to ultimately develop a **community of researchers and practitioners** focused on both improving **access to TinyML education** and **enabling innovative solutions** for the unique challenges faced by Developing Countries.

- Joint **workshops and seminars** on TinyML with lab sessions hosted by and for network members
- An **online forum** to consolidate the TinyML community of researchers, educators, and practitioners
- **Open exchange** of student projects, lesson plans, real-world deployments and outreach materials

TinyML Academic Network

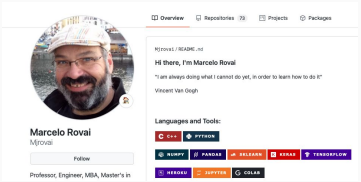


TinyML Academic Network

edX

coursera

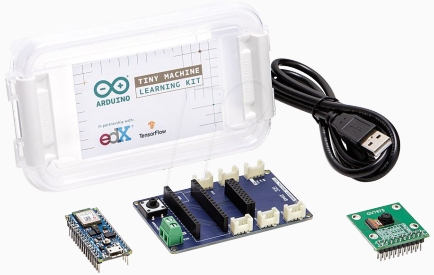
EDGE IMPULSE



~~Good~~ Best training material

Reliable equipment

Human Networking



TinyML academic network

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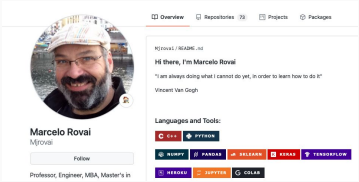

- *September 17*: Academic Network Introduction and Why the Future of ML is Tiny and Bright with Prof. Vijay Janapa Reddi of Harvard University. Vijay's slides. Full Seminar Video.
- *October 1*: Software Tools for TinyML with Prof. Marcelo Rovai of Universidade Federal de Itajubá. Marcelo's Slides. Full Seminar Video. Chat Log.

TinyML academic network

https://tinymledu.org/teach

Course Name	Date of Course	Target Audience	Language of Instruction	Language of Materials	Course Website	Materials Link
edX tinyML Specialization	Launched 2020-2021	Everyone	English	English	link	link
Harvard CS249r	Sept-Dec 2020	Graduate Students	English	English	link	link
UNIFEI IESTI01-T01	Jan-July 2021	Undergraduate Students	Portuguese	English	link	link
UNIFEI IESTI01-T02	Aug-Dec 2021	Undergraduate Students	Portuguese	English	link	link
CRESTLEX 3.0	June 2021	Middle and High School Students and Teachers	English	English	link	link

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Day	Date	Morning Session 9am–11am MT	Afternoon Session 12pm–2pm MT
1	Tuesday, 6/22	The Future of Artificial Intelligence	Experimenting with AI
2	Wednesday, 6/23	How Machine Learning Works	Exploring Machine Learning with Edge Impulse
3	Thursday, 6/24	How can I use ML in my Community?	*Build it!* Creating your own application with Edge Impulse
4	Friday, 6/25	Responsible AI	What's Next?

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Have **questions** about how to adapt the materials?

Suggestions for how to make them easier to use?

Reach out on Discord!

TinyML academic network

Reliable equipment

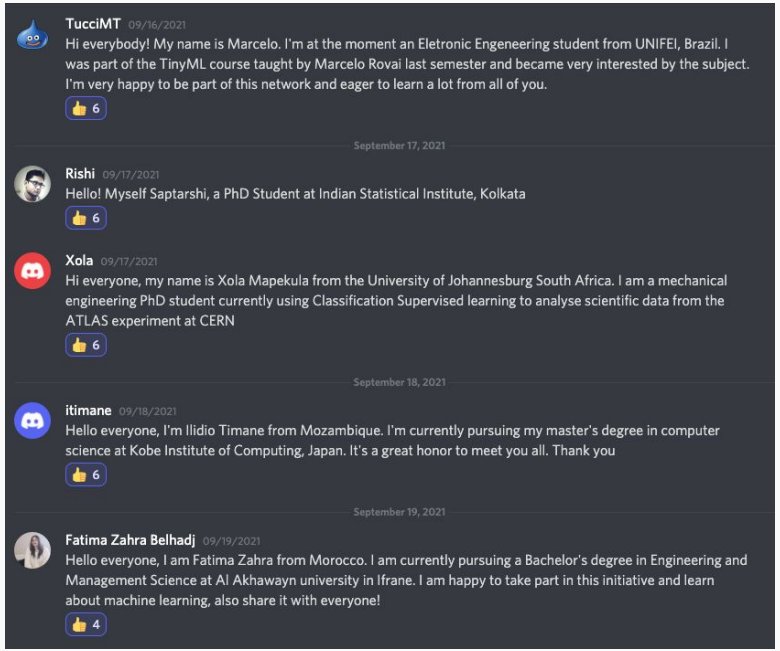
Devices should be available from Arduino by the end of the year!

We are **#1** on the list!

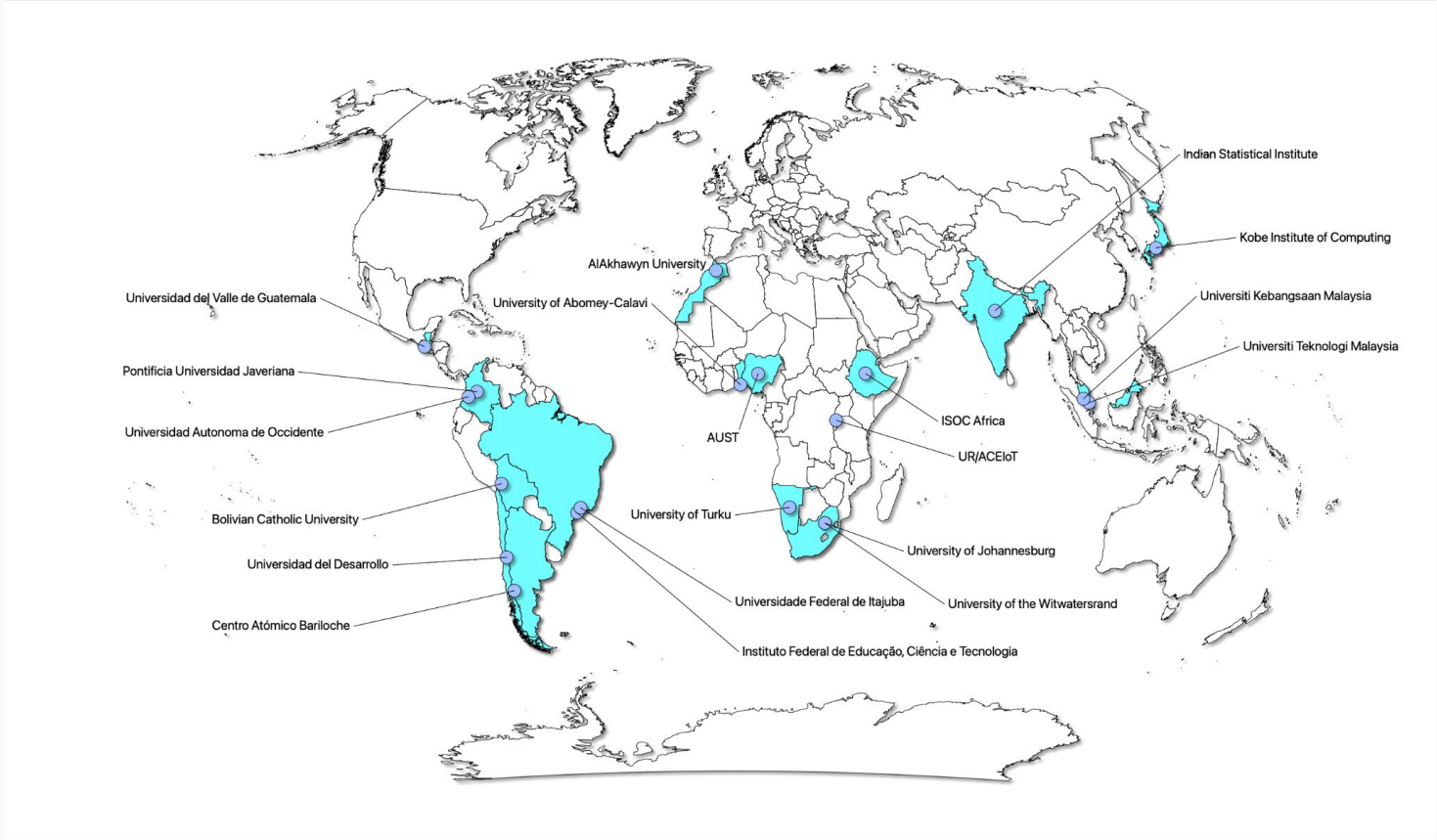
TinyML academic network

Human Networking

160 members!



TinyML academic network



TinyML academic network

- Americas:
  - Colombia
    - 1- Pontificia Universidad Javeriana - Bogotá, Colombia
    - 2- Universidad Autónoma de Occidente - Cali, Colombia
  - Argentina
    - 3- Centro Atómico Bariloche /Instituto Balseiro
  - Brazil
    - 4- UNIFEI - Universidade Federal de Itajubá
    - 5- IFSP - Instituto Federal de São Paulo
  - Chile
    - 6- UDD - Universidad del Desarrollo
  - Guatemala
    - 7- Universidad del Valle de Guatemala
  - Bolivia
    - 8- Universidad Católica Boliviana “San Pablo” Regional La Paz

TinyML academic network

- Africa:
  - Ethiopia
    - 9- Internet Society
  - Benin
    - 10- University of Abomey-Calavi
  - Rwanda
    - 11- University of Rwanda
  - Namibia
    - 12- University of Turku in Namibia
  - Nigeria
    - 13- African University of Science and Technology
  - Morocco
    - 14- Al Akhawayn University in Ifrane
  - South Africa
    - 15- University of Johannesburg
    - 16- University of Witwatersrand

TinyML academic network

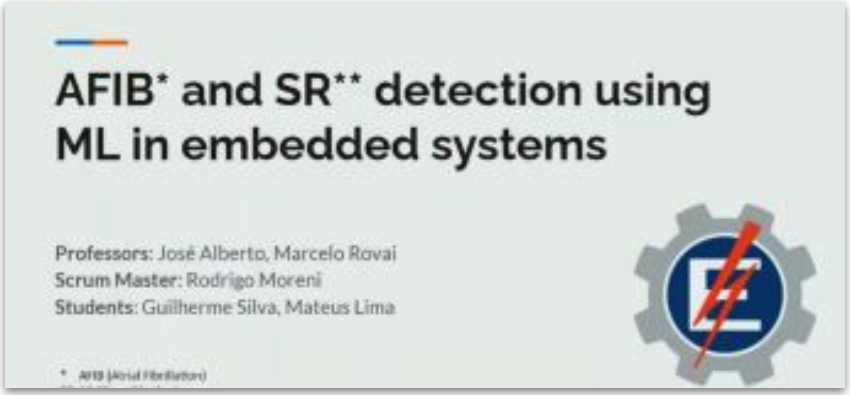
Asia:

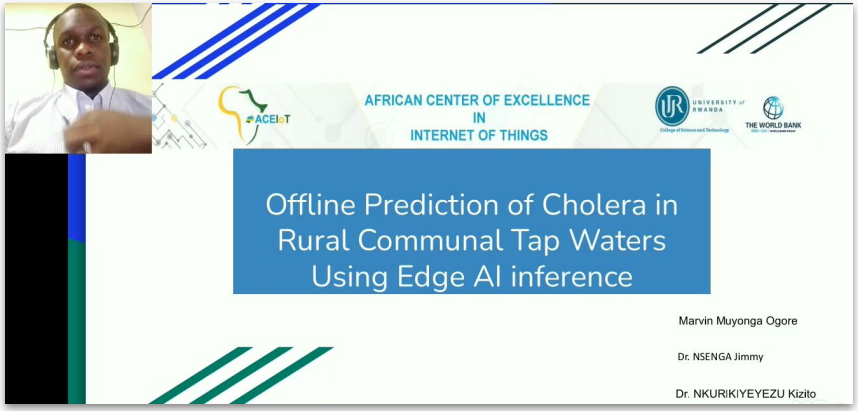
- Malaysia
  - 17- Universiti Kebangsaan Malaysia
  - 18- Universiti Teknologi Malaysia
- India
  - 19- Indian Statistical Institute
- Japan
  - 20- Kobe Institute of Computing

Roadmap

Network Creation	Seminar #1 Intro to TinyML	Seminar #2 Tools Setup	Seminar #3 Networking
July 21	Sept 21	Oct 21	Oct 21
ICTP Workshop	Devices Setup	TinyML Labs	Regional Workshops
Oct 21	Dec 21 Jan 22	Jan 22	Mar 22

Case Studies





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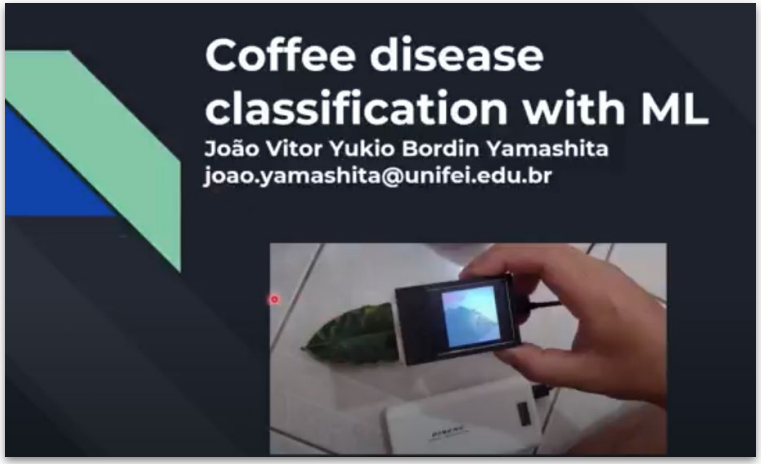

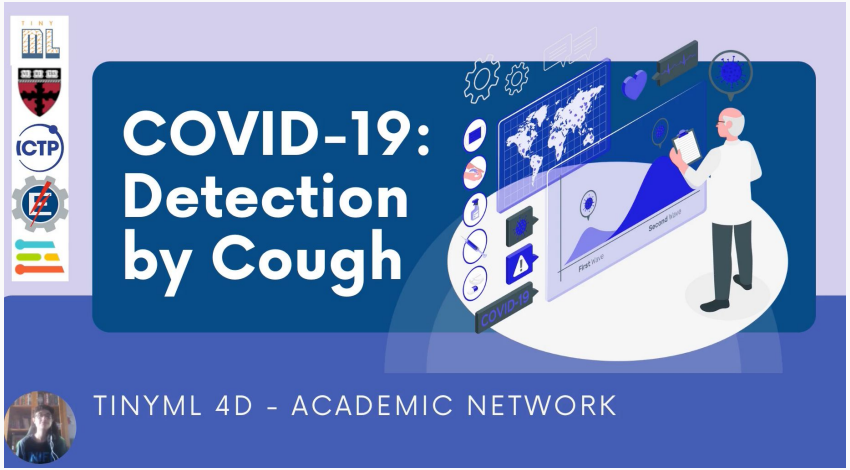

Breakout Rooms

Get to know each other!

Find common interests!

(teaching TinyML, applications, research, etc)

Create new channels in Discord!

(language, geography, interest, etc)!

Choose your own adventure!

Working Group

Vijay Janapa Reddi

Brian Plancher

Marco Zennaro

Marcelo Rovai

Hal Speed

Daniel D'souza

Gregg Barrett

Andres Monsalvo

Jesús Alfonso López Sotelo

Mohd Ridzuan Bin Ahmad

Jose Alberto Ferreira Filho

And many others!
And maybe you?

Thanks!

Harvard John A. Paulson
School of Engineering
and Applied Sciences

TINY
ML

Google

EDGE
IMPULSE

HarvardX

ARDUINO

edX

TensorFlow Lite

Tell me and I forget, teach me and I may remember, involve me and I learn.
-- Benjamin Franklin