

# Solving World Problems with Open Technologies

Hong Phuc Dang, FOSSASIA

The GNOME™ Conference

# GUADEC

July 21–25, 2021

















Improve **people's lives** by sharing open technologies, knowledge and resources and building a sustainable FOSS ecosystem

**fossasia**





# FOSSASIA Projects and Activities



[events.fossasia.org](https://events.fossasia.org)

FOSSASIA Summit  
Open Tech Summit

FOSSASIA Projects and Activities











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Open Tech Summit

[codeheat.org](https://codeheat.org)

Coding Programs  
Open Education  
Academies

FOSSASIA Projects and Activities



# FOSS asia

CODEHEAT RUNS FROM OCTOBER 1, 2020 TO JUNE 1, 2021

{Codeheat}

Build up your developer profile with  
FOSSASIA and win awesome prizes!  
Winners are announced bi-monthly.

Register for Code Heat

Learn More



[ Apoorv Taneja ] @apoorv\_taneja · Jun 3

Thank you @fossasia for giving me a platform to contribute to Open Source.

#OpenSource #reactjs

[codeheat]

FOSSASIA

presents this

Certificate

To

Apoorv Taneja

For your participation and contribution to

FOSSASIA CODEHEAT PROGRAM

September 10, 2018 - February 1, 2019

Mario Behling  
Co-Founder, FOSSASIA



Hong Phuc Dang  
Founder, FOSSASIA

750+ participants

750 registered in the Codeheat contest 2019/20 and learnt how to participate in the FOSSASIA developer community.

2000+ merged pull requests

More than 2000 pull requests were merged during last year's contest. Participants also submitted scrum reports, wrote blog posts and created entirely new projects in the FOSSASIA community.

Global mentors

Mentors are developers, engineers, university students, professors, and generally contributors who love to share and be a part of our open source community. They help creating better software for a better and just world.



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Free Open Source  
Software &  
Hardware Product  
Development

FOSSASIA Projects and Activities



Proudly developed at FOSSASIA

SUSI.AI

lok lak 



PSLab.io

eventyay

SUSPER

badgeyay

Scrum  
Helper

neurolab



MEILIX



query-server

FOSSASIA  
KNITTING



LABYRINTH



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query-server

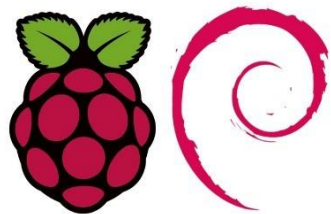
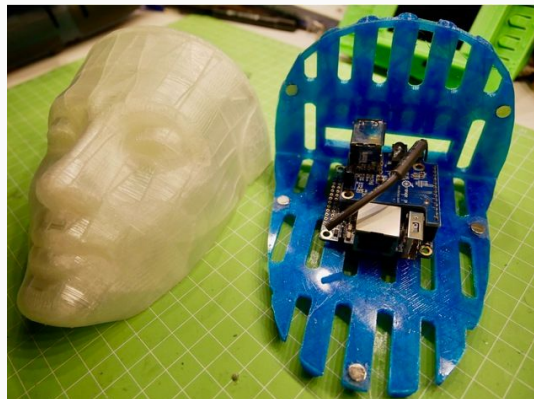
FOSSASIA  
KNITTING



LABYRINTH



# Smart Speaker



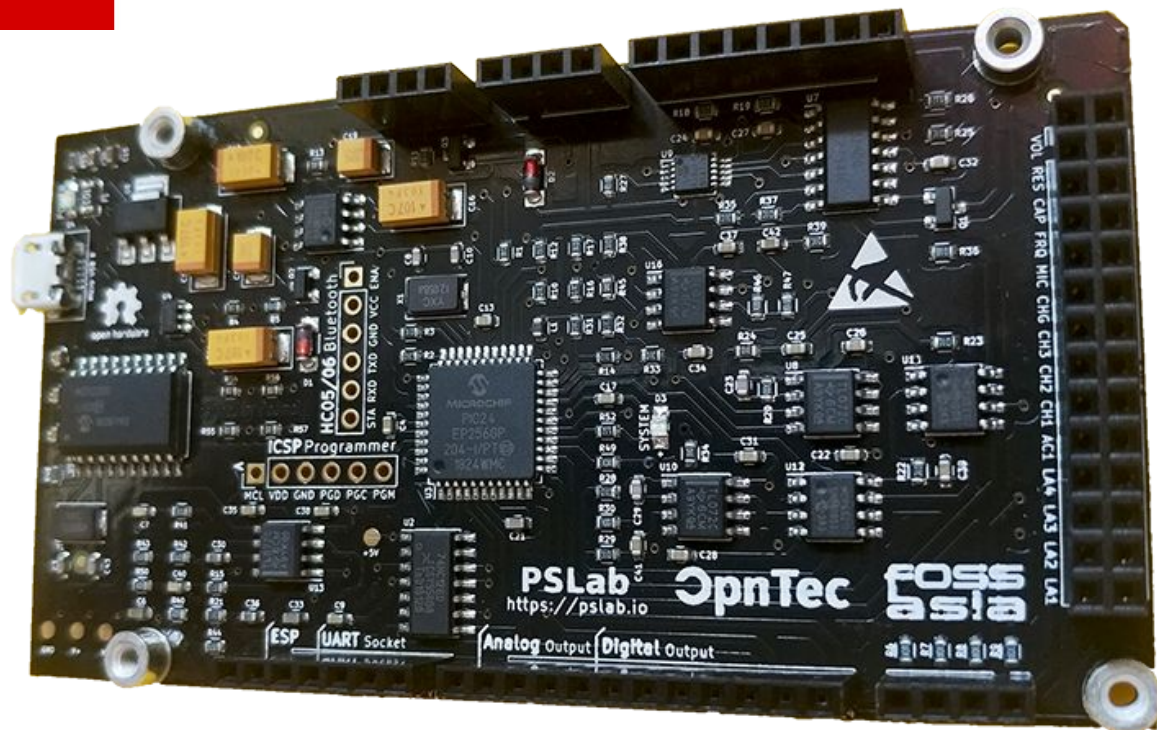
**Raspbian**



<https://susi.ai>



# PSLab.io





By openly sharing knowledge and technologies we are able to collaborate on a global scale.



We cannot leave our future in the hands of a handful of billionaires, elite scientists, a few monopolies, or wait for our politicians. The problems on our planet are too big. We need everyone to act now.



The open model of sharing is a foundation for a better future where we use globally developed technologies to produce locally, more environmentally friendly and more healthy.



# Global Health Problems

## The Corona Pandemic





# AREEB JAMAL

15.10.1995

28.04.2021

Forever in our hearts  
and our memory



“... the company had simply refused to release design files, forcing them to reverse-engineer the valve.”

## Volunteers produce 3D-printed valves for life-saving coronavirus treatments

*Volunteers made the valves for about \$1*

By [Jay Peters](#) | [@jaypeters](#) | Mar 17, 2020, 6:51pm EDT

[f](#) [t](#) [SHARE](#)



Image: Massimo Temporelli

VERG



Beats Powerbeats Pro  
refurbished at Best B



You can get a OnePl



# Open Source Solutions Addressing Covid-19

- ❑ Applications for contact tracing, social distancing
- ❑ Platforms that offer volunteering opportunities, connecting people and resources
- ❑ Tools for remote work and education
- ❑ Open source hardware that provides equipment to medical services such as ventilators or respirators



What is preventing us from NOT using huge human-exploiting factories in China?

What is preventing us from NOT shipping goods around the world that damage our climate?

What is preventing us from sharing medical knowledge to create vaccines locally?

What is preventing us from sharing schematics of ventilators locally?



# Global Environmental Crisis

Climate Change



# Central Vietnam Floods: An annual disaster



Photo Credit: VTC News

Photo Credit: Thanh Dat/TTXVN



# Will the Mekong Delta be underwater by 2050?



Photo Credit: Thanh Nhan | Nguyen Van Cu Street, Ninh Kieu District, Can Tho City



# 2021 Climate Related Disasters (June and July)

- ❑ China floods in Zhengzhou city - at least 25 deaths, 200,000 people being evacuated
- ❑ Record rainfall in Western Europe - almost 200 deaths, more than 700 injured and many still missing reported on Monday
- ❑ Western North America heatwave - about 500 people have died in Canada

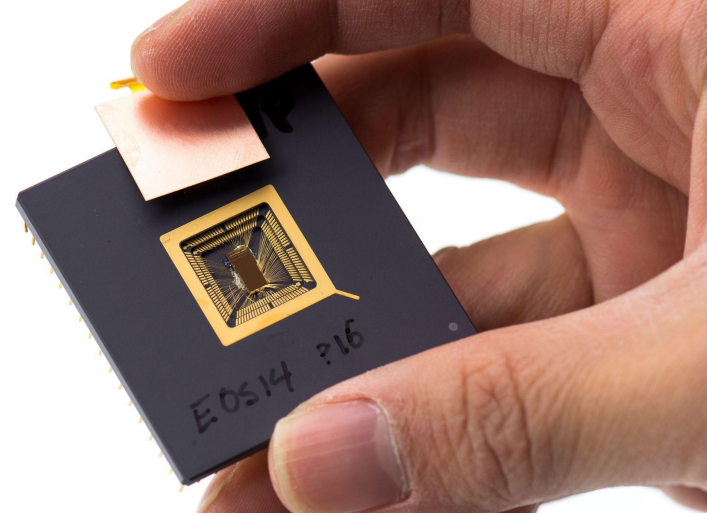
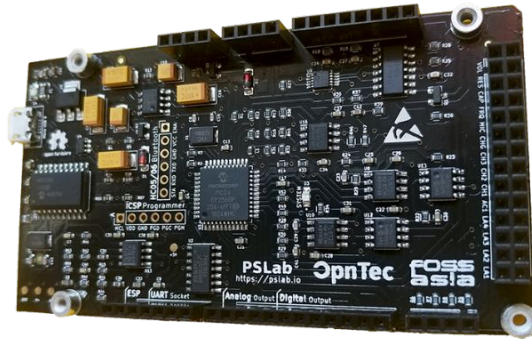


# Open Source Solutions for Climate Change

- ❑ Software to do climate modeling and evaluation
- ❑ Citizen science initiatives
- ❑ Applications to reduce your carbon footprints
- ❑ Software to measure air pollution
- ❑ Applications that change our consumption habits
- ❑ Open source tools to collect and analyze climate data
- ❑ Ideas for future: solutions to improve power grid infrastructure, open source in the energy industry.



# Open Technologies are possible on all layers up to the level of the microchip







# Fight Planned Obsolescence



John Deere---the world's largest agricultural machinery maker ---told the Copyright Office that farmers don't own their tractors. Because computer code snakes through the DNA of modern tractors, farmers receive "an implied license for the life of the vehicle to operate the vehicle."

[wired.com/2015/04/dmca-ownership-john-deere/](http://wired.com/2015/04/dmca-ownership-john-deere/)

[bloomberg.com/news/features/2020-03-05/farmers-fight-john-deere-over-who-gets-to-fix-an-800-000-tractor](http://bloomberg.com/news/features/2020-03-05/farmers-fight-john-deere-over-who-gets-to-fix-an-800-000-tractor)

Bloomberg Businessweek

## Farmers Fight John Deere Over Who Gets to Fix an \$800,000 Tractor

The right-to-repair movement has come to the heartland, where some farmers are demanding access to the software that runs their equipment.



WIRED

BACKCHANNEL BUSINESS CULTURE GEAR IDEAS SCIENCE SECURITY

WIRE NEWS

BUSINESS 04.21.2015 09:00 AM

## We Can't Let John Deere Destroy the Very Idea of Ownership

It's official: John Deere and General Motors want to eviscerate the notion of ownership.





# Call for Action

Everyone can make a difference



# Solve World Problems with Open Tech

1. Learn about Open Technologies every day, join the community and contribute.
2. Share your knowledge about the open source collaboration model with anyone around you.
3. Change the mindset of people around you through hands-on open tech projects.
4. Support open source businesses or start your own.



# Connect and Work with FOSSASIA

1. Join the **FOSSASIA Summit 2022**. The event is dedicated to open source solutions that tackle world problems.
2. Contribute to FOSSASIA repositories.
3. Get a Pocket Science Lab at **pslab.io**
4. Meet us at at **UbuCon Asia** on Sep 25-26 hosted on **eventyay.com**.



Thank you!

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[@hpdang](#) [@fossasia](#)

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# Resources

- ❑ In Memory of Areeb Jamal [youtu.be/XbFCBp-LTXc](https://youtu.be/XbFCBp-LTXc)
- ❑ FOSSASIA Projects [github.com/fossasia](https://github.com/fossasia)
- ❑ Pocket Science Lab (Open Hardware) [pslab.io](https://pslab.io)
- ❑ Covid-19 Open Source Solutions  
[joinup.ec.europa.eu/collection/digital-response-covid-19/open-source-solutions](https://joinup.ec.europa.eu/collection/digital-response-covid-19/open-source-solutions)
- ❑ Environmental Open Source Projects  
[opensource.com/article/19/4/environment-projects](https://opensource.com/article/19/4/environment-projects)