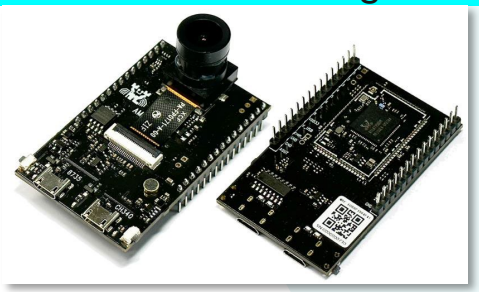
NTNU × Realtek

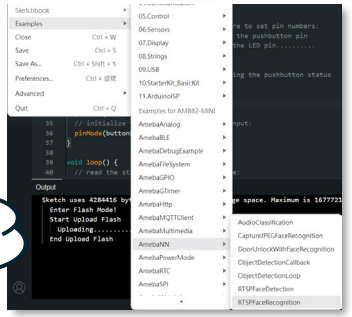
AIoT Workshop in Kanazawa

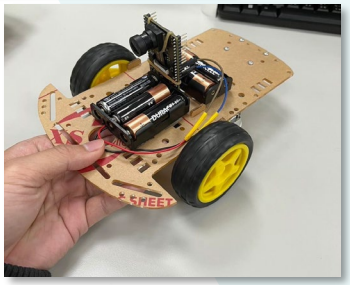
National Taiwan Normal University（NTNU）, one of the KU International Partner Institutions (University-Level) and leading national university in Taiwan, and Realtek Semiconductor Corp., located in the Hsinchu Science-based Industrial Park — Taiwan's "Silicon Valley" will organize Special "AIoT Workshop" in Kakuma Campus, collaborated with "Kanazawa University Strategic Project for Development of Doctoral Students and Research Promotion (HaKaSe+)." A Realtek AIoT device will be given to the participant! We look forward to seeing many of you.

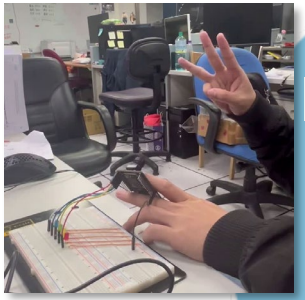


- **Date&Time:** April 27th 9:00～28th 17:30
- **Venue:** Room 2A126, located at the Natural Science Technology Hall 2, A block, 1st floor
- **Primary language:** English (Japanese materials are also available)
- **Participants:** Up to ~35 open to students, researchers, and technical staff interested in AI — any major or year welcome!
- **Program Overview (Hope you'll join us both days)**
  - **Day1 AM:** Introduction to AIoT and edge devices, research exchange session
  - **Day1 PM:** Hands-on session, latest AI technology highlights
  - **Day2 AM:** Dataset collection, dataset annotation
  - **Day2 PM:** AI app demos, advanced model training, gesture-controlled mini-car, and Q&A

Poster presentations welcome!!







AI researchers and graduate students from NTNU are coming! Join our workshop to explore cutting-edge AI while engaging in research exchange.

Apply here

Deadline: April 15(Wed)

Program details are on the back.

《Contact》 HaKaSe+, Educational and Student Affairs Division
E-mail: jisedai@adm.kanazawa-u.ac.jp

Workshop Program *Tentative

April 27 (Mon), DAY 1

Time	Program
9:00 - 9:15	Opening Remarks
9:15- 10:00	Introduction to AIoT and Edge Devices: Overview of AIoT concepts, the role of sensors and edge devices, and the importance of on-device computation. Edge AI Architecture: Workflow and constraints of deploying AI models on devices (memory, computing power, energy efficiency). Overview of Deep Learning Theory: Fundamentals of neural networks, classification, and detection model applications.
10:00 - 12:00	Research Exchange session Poster presentation
12:00 - 13:30	Lunch Break
13:30 - 14:20	Hands-on Session 1: Ameba 82mini Setup · Introduction to AMB development board (hardware, AI acceleration features) · Development environment setup, SDK configuration, driver installation, example projects · Basic platform operation test Hands-on 2: Audio Classification
14:30 - 15:20	Hands-on 3: Image Classification / Face Recognition Hands-on 4: Introduction to YOLO · Object Detection · Hand Gesture Recognition (1, 2, 3, 4, 5)
15:30-16:20	Introduction to Transformer & LLM-based AI · Vision LLM AI · Speech LLM AI
16:30 - 17:00	Speech Whisper AI / Text-to-Speech (TTS) AI
17:00 - 17:30	Discussion (Q&A)

April 28 (Tue), DAY 2

Time	Program
09:00 - 09:10	Opening
09:10 - 10:00	Dataset Collection Using AMB82-mini Image capture workflow, sampling methods, and data quality considerations
10:10 - 11:00	Dataset Annotation with Roboflow Uploading images, creating datasets, drawing bounding boxes, setting labels
11:10 - 12:00	Introduction to Data Augmentation and Model Integration
12:00 - 13:30	Lunch Break
13:30 - 14:20	YOLO Model Training Using Google Colab Environment setup, dataset loading, YOLO parameters, training, validation, model export Model quantization and conversion
14:30 - 16:20	AI Application Demonstrations & Advanced Model Training · Mini-car gesture control implementation
16:20 - 17:20	Discussion & Q&A Session Student experience sharing and problem discussion Q&A regarding AI technology and Ameba 82mini usage
17:20-17:30	Closing remark