

The 2nd RIKEN AIP – SJTU CS Joint Workshop on  
Machine Learning and Brain-like Intelligence  
Aug 6, 2024 (Day 1)

Time	Talk	Chair
9:30 – 9:40	Opening Remarks by Masashi Sugiyama	
9:40 – 9:50	Introduction of RIKEN-AIP, <b>Masashi Sugiyama (RIKEN)</b>	Qibin Zhao
9:50 – 10:00	Introduction of SJTU-CS, <b>Liqing Zhang (SJTU)</b>	
10:00 – 10:25	<b>Masashi Sugiyama (RIKEN)</b> Recent Advances in Robust Machine Learning	
10:25 – 10:55	<i>Coffee/Tea Break</i>	
10:55 – 11:20	<b>Liqing Zhang (SJTU)</b> Tensor Manifold Representation for Multi-Model Visual Tasks	Masashi Sugiyama
11:20 – 11:45	<b>Qibin Zhao (RIKEN)</b> Efficient and robust machine learning with tensor networks	
11:45 – 11:55	<i>Group Photo</i>	
12:00 – 13:30	<i>Lunch (all participants)</i>	
13:30 – 13:55	<b>Baoliang Lu (SJTU)</b> Multimodal Affective Brain-Computer Interface and Application	Liqing Zhang
13:55 – 14:20	<b>Tomasz M. RUTKOWSKI (RIKEN)</b> AI and Aging Brain: Machine Learning for BCI Applications in Healthy Aging and Neurobiomarkers	
14:20 – 14:45	<b>Lin Gu (RIKEN)</b> Recognition in a physical world: an evolutionary approach	
14:45 – 16:45	<i>Coffee/Tea Break &amp; Poster Session</i>	
16:45 – 17:10	<b>Minyi Guo (SJTU)</b> Cloud Native Architectures	Baoliang Lu
17:10 - 17:35	<b>Lizhuang Ma (SJTU)</b> Key Technologies and Applications of Industrial Visual Inspection	
17:35 – 18:00	<b>Gang Niu (RIKEN)</b> Generalizing importance weighting to a universal solver for distribution shift problems	
18:00 – 20:00	<i>Dinner &amp; Networking (all participants)</i>	

## Aug 7, 2024 (Day 2)

Time	Talk	Chair
9:50 – 10:15	<b>Junchi Yan (SJTU)</b> Learning for combinatorial optimization and applications	Gang Niu
10:15 – 10:40	<b>Chao Li (RIKEN)</b> Toward Exploring Arbitrary Tensor Networks in Computation and Learning	
10:40 – 11:10	<b>Coffee/Tea Break</b>	
11:10 – 11:35	<b>Yang Yang (SJTU)</b> Systematic Reduction and Quantitative Assessment of Model Uncertainty in Medical Image Analysis	Tomasz M. RUTKOWSKI
11:35 – 12:00	<b>Matthias Weissenbacher (RIKEN), Online Talk</b> Generalisation in image-based Reinforcement learning via Symmetries in Transformers	
12:00 – 13:30	<b>Lunch (all participants)</b>	
13:30 – 13:55	<b>Yanmin Qian (SJTU)</b> Multi-Modal Robust Speech Processing, Analysis and Recognition in Reality	Lin Gu
13:55 – 14:20	<b>Wei Huang (RIKEN)</b> Provably Neural Active Learning Succeeds via Prioritizing Perplexing Samples	
14:20 – 14:45	<b>Yuwei Sun (RIKEN)</b> Exploring Priors and Long-Term Memory in Transformers	
14:45 – 16:45	<b>Coffee/Tea Break &amp; Poster Session</b>	
16:45 – 17:10	<b>Weilong Zheng (SJTU)</b> Rapid Context Inference in a Thalamocortical Model Using Recurrent Neural Network	Junchi Yan
17:10 - 17:35	<b>Kazusato Oko/Yujin Song (RIKEN)</b> Transformer Efficiently Learns Low-dimensional Target Functions In-context	
17:35 – 18:00	<b>Yilan Chen (RIKEN)</b> Analyzing Neural Networks through Equivalent Kernels	
18:00	Closing Remarks by Liqing Zhang	

## **Poster session (Aug 6, 2024)**

**Presenter:** Andong Wang

**Title:** Tensor low-rankness for robust generalization

**Presenter:** Yuning Qiu

**Title:** Towards Multi-Mode Outlier Robust Tensor Ring Decomposition

**Presenter:** Reinmar Kobler

**Title:** Geometric Deep Learning to advance EEG BCI generalization and EEG-fMRI fusion

**Presenter:** Wei Wang

**Title:** Learning with Complementary Labels Revisited: The Selected-Completely-at-Random Setting Is More Practical

**Presenter:** Haonan Huang

**Title:** Adversarially Robust Multi-view Learning: Attack and Defense

## **Poster session (Aug 7, 2024)**

**Presenter:** Takashi Ishida

**Title:** Is the Performance of My Deep Network Too Good to Be True? A Direct Approach to Estimating the Bayes Error in Binary Classification

**Presenter:** Simon Kojima

**Title:** Spatial Auditory Soundscapes for Developing Digital Neurobiomarkers or Cognitive Interventions in Early-onset Dementia Based on EEG and fNIRS Machine-learning Analysis

**Presenter:** Mingyuan Bai

**Title:** Diffusion Models for Adversarial Purification

**Presenter:** Hailin Wang

**Title:** Guaranteed Tensor Recovery fused Low-rankness and Smoothness

**Presenter:** Guang Lin

**Title:** Adversarial Training on Purification (AToP): Advancing Both Robustness and Generalization

**Oral:** 8 (SJTU), 11 (RIKEN), **Poster:** 12 (RIKEN), **Participant only:** 12 (RIKEN)

**Venue:** Nihonbashi 1-chome Mitsui Building, 15th floor, 1-4-1 Nihonbashi, Chuo-ku, Tokyo