

17th - 20th September 2024
Lugano

33rd International Conference on Artificial Neural Networks

ICANN24



idsia

Dalle Molle Institute
for Artificial Intelligence
USI-SUPSI

Welcome to ICANN 2024

Welcome to Lugano, Ticino, Switzerland, where we hold the 33rd International Conference on Artificial Neural Networks (ICANN 2024), the flagship conference of the European Neural Network Society (ENNS). We are truly happy that you have made your way to our city, where ICANN takes place as a fully in-person-only meeting.

This year, ICANN is co-organized by the Istituto Dalle Molle di studi sull'intelligenza artificiale (IDSIA USI-SUPSI <https://www.idsia.usi-supsi.ch>) and by the Marie Skłodowska-Curie (MSC) Innovative Training Network European Industrial Doctorate "Advanced machine learning for Innovative Drug Discovery" (AIDD <https://ai-dd.eu>), supported by the MSC Doctoral Network "Explainable AI for Molecules" (AiChemist <https://aichemist.eu>). It is held on the joint premises of Università della Svizzera italiana (USI) and Scuola Universitaria Professionale della Svizzera italiana (SUPSI), close to the city and the main attractions of Lugano.

When we proposed Lugano as the venue for ICANN 2024, one of our main goals was to bring the conference close to academic life in order to foster exchange between established researchers, PhD students, and the local undergraduate and master's students here on the campus. We believe to have achieved this goal: Around two thirds of the registered conference participants are PhD students, but we also find many highly esteemed and established researchers among our attendees. From the local community, more than 20 students have signed up as conference assistants – they will help you to find your way around the campus, to set up your presentation, and to make the best out of your visit to Lugano! The student assistants are rewarded with free access to the entire conference and the conference catering.

The Program Committee has put together an attractive scientific program comprising a multifaceted main track, several attractive workshops and special sessions, two excellent tutorials, as well as important keynotes by world-renowned scientists from a diverse range of disciplines. Following the mission of ENNS, we have aimed at bridging different research fields of neural machine learning, brain-inspired computing and cognitive computational neuroscience. We also wish to bring researchers on theory and foundations of machine learning together with application-oriented colleagues. These goals are reflected in our keynotes as well as in the main conference program. We hope that you, the attendees, will be able to engage in many fruitful discussions.

As in past years, ICANN 2024 also has an extensive social program.

On the evening of Tuesday, September 17, all attendees are invited to a complimentary welcome reception, where light snacks and drinks will be served. On Thursday, September 19, we will have our Conference Dinner at Ristorante Ciani, located a few blocks away from us right next to Parco Ciani, which straddles Lugano lakeside and is one of the prime locations within the city. Note that extra registration is required for the Conference Dinner, and that places are limited. Standing lunches and coffee breaks are included in the conference program. You will find helpful tips for getting around, and further information on the facilities (including WiFi) in this booklet. We wish you an excellent ICANN 2024!

The conference chairs and organization team

Michael Wand
Jürgen Schmidhuber

Kristína Malinová
Igor V. Tetko

Message from the ENNS President

Dear Colleagues,

it is my great pleasure to welcome you all to the 33rd International Conference on Artificial Neural Networks (ICANN 2024) in Lugano, Switzerland. As President of the European Neural Network Society (ENNS), I am honored to start and open ICANN 2024 in this way on behalf of ENNS. Each year, ENNS hosts ICANN as the flagship event of our society and ICANN 2024 marks an important milestone in the field of neural networks and artificial intelligence. Over the past years, we have seen remarkable advancements in neural algorithms and their applications across diverse domains. From brain-inspired computing to large language models and from hybrid neuro-symbolic integration to neuro-robotics, the field continues to push the boundaries of what is possible. This year's conference, organized by the Dalle Molle Institute for Artificial Intelligence Research (IDSIA USI-SUPSI), promises to be an exciting experience bringing together researchers and practitioners from various disciplines to share their latest findings. As we shape the future of neural networks and artificial intelligence, it is also crucial to foster an environment of open dialogue, knowledge sharing, and interdisciplinary collaboration.

I would like to express my sincere gratitude to the ENNS board, the organizers, the program committee, all speakers, reviewers and all participants for their contributions to making ICANN 2024 a success. I look forward to engaging discussions, fruitful collaborations, and the opportunity to learn from one another during this conference. Welcome to ICANN 2024!

Sincerely,

Stefan Wermter

President,
European Neural Network Society (ENNS)

A conference
of the European Neural
Network Society.



Message from the Director of IDSIA

IDSIA has a long history. It was founded in 1988 when AI had not yet developed its full potential, and only a restricted number of researchers were exploring its potential. In particular, the research of Jürgen Schmidhuber on deep neural network architectures in the 90s laid the ground for the astounding developments that we have experienced in the past 15 years thanks to the availability of computational power at an unprecedented scale.

Currently, at IDSIA as well as within the broader AI research community, we find ourselves confronted with new challenges. The role of academic research seems to be sidelined by the huge investments in AI tech brought by large companies and Europe sees to struggle behind the investments made in the USA and China, despite the fact that almost all of deep learning and modern AI research originated in Europe and partly in Japan. The race to release larger and larger language models seems to be unstoppable and is proceeding at a rate which leaves behind values that are fundamental for scientific research: transparency, openness and reproducibility.

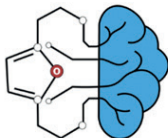
I am convinced that events such as ICANN 2024, which IDSIA proudly co-organises, are essential for highlighting the fundamental values that guide scientific research, which in turn enable us to discern the manifold ways in which artificial intelligence and machine learning can foster the successful development of our society and our lives.

Sincerely,
Andrea Emilio Rizzoli
Director,
IDSIA USI-SUPSI

Host and Organization:



Marie Skłodowska-Curie (MSC) Innovative Training Network European Industrial Doctorate "Advanced machine learning for Innovative Drug Discovery" (AIDD <https://ai-dd.eu>), supported by MSC Doctoral Network "Explainable AI for Molecules" (AiChemist <https://aichemist.eu>).



Keynote Speakers



**Jürgen
Schmidhuber**
IDSIA USI-SUPSI,
Switzerland,
and
KAUST AI Initiative,
Saudi Arabia



**Tanja
Schultz**
University
of Bremen,
Germany



**Walter
Senn**
Institute of
Physiology,
University of Bern,
Switzerland



**Michael
W. Reimann,**
Blue Brain,
Swiss Federal Institute of
Technology Lausanne,
Switzerland

The ICANN 2024
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17.09

Tuesday

Programme Schedule

8:30 – 10:30	Aula Magna	Opening Session Keynote Jürgen Schmidhuber
10:30 – 11:00		Coffee Break
11:00 – 13:00	Aula Magna	Computer Vision - Image Classification & Object Detection SRA-YOLO: Spatial Resolution Adaptive YOLO for Semi-Supervised Cross-Domain Aerial Object Detection <i>Junhao Huang, Jian Xue, Yuqiu Li, Hao Wu, Ke Lu</i> A Weakly Supervised Part Detection Method for Robust Fine-grained Classification <i>Yang Liu, Le Jiang, Guoming Li, Xiaozhou Ye, Ye Ouyang</i> Multi-scale Convolutional Attention Fuzzy Broad Network for Few-shot Hyperspectral Image Classification <i>Xiaopei Hu, Guixin Zhao, Lu Yuan, Xiangjun Dong, Aimei Dong</i> Counterfactual Contrastive Learning for Fine Grained Image Classification <i>Chenke Yin, Jia Wang, Haichao Zhang, Kaiyue Feng, Lin Shi, Qianyi Ma</i> An Energy Sampling Replay-Based Continual Learning Framework <i>Xingzhong Zhang, Joon Huang Chuah, Chukiong Loo, Stefan Wermter</i> Coarse-to-Fine Granularity in MultiScale Feature Fusion Network for SAR Ship Classification <i>Wei Lin, Hao Zheng, Zhigang Hu, Meiguang Zheng, Liu Yang</i>
	Aula Polivalente	Reinforcement Learning and Time Series Processing Beyond Gut Feel: Using Time Series Transformers to Find Investment Gems <i>Lele Cao, Gustaf Halvardsson, Andrew McCormack, Vilhelm von Ehrenheim, Pawel Herman</i> CFP: A Reinforcement Learning Framework for Comprehensive Fairness-Performance Trade-off in Machine Learning <i>Simiao Zhang, Jitao Bai, Menghong Guan, Yueling Zhang, Jun Sun, Yihao Huang, Jiaping Wang, Chengcheng Wan, Ting Su, Geguang Pu</i> Dual Action Policy for Robust Sim-to-Real Reinforcement Learning <i>Wen Zheng Terence Ng, Jianda Chen</i> Building Surrogate Models using Trajectories of Agents trained by Reinforcement Learning <i>Julen Cestero, Marcello Restelli, Marco Quartulli</i> Speeding up Meta-Exploration via Latent Representation <i>He Bingcheng, Han Wang, Li Qingshan</i>
	Foyer	Tutorial FedN Salman Toor, Uppsala University, Sweden <i>Andreas Hellander, Uppsala University, Sweden</i>

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Tuesday

Startup Garage	Applications in Medicine and Physiology Meteorological Data based Detection of Stroke using Machine Learning Techniques <i>Anastasia-Daria Marc, Andreea Alina Ploscar, Adriana Mihaela Coroiu</i> Unveiling the Potential of Synthetic Data in Sports Science: A Comparative Study of Generative Methods <i>Benoit Hohl, Hector Satizabal, Andres Perez-Uribe</i> OFNN-UNI: Enhanced Optimized Fuzzy Neural Networks based on Unineurons for Advanced Sepsis Classification <i>Paulo Vitor de Campos Souza, Mauro Dragoni</i> A Deep Learning Multi-omics Framework to Combine Microbiome and Metabolome Profiles for Disease Classification <i>Andrea Licciardi, Antonino Fiannaca, Massimo La Rosa, Maurizio Alfonso Urso, Laura La Paglia</i> ProTeM: Unifying Protein Function Prediction via Text Matching <i>Ming Qin, Xun Li, Yuhao Wang, Zhenping Li, Hongbin Ye, Zongbing Wang, Weihao Gao, Shangsong Liang, Qiang Zhang, Keyan Ding</i> SnoreOxiNet: Non-contact Diagnosis of Nocturnal Hypoxemia Using Cross-domain Acoustic Features <i>Wei Yan Yi, Xiuping Yang, Li Xiao, Weiping Tu, Xiong Chen, Yuhong Yang, Xinhong Li, Jie Lin</i>
13:00 – 14:30	Lunch Break
14:30 – 16:30	Aula Magna
	Generative Modeling in Computer Vision CrossViewDiff: A Cross-View Diffusion Model for Satellite-to-Ground Image Synthesis <i>Yuankun Chen, Dazhong Rong, Yi Li</i> A Robust Cycle Generative Adversarial Network with an Improved Atmospheric Scatter Model for Image Dehazing <i>Xinlai Guo, Yanyun Tao, Yuzhen Zhang, Biao Xu, Jianying Zheng, Guang Ji</i> P2H-GAN: An Effective Method For Generating Handwritten Expressions Using Generative Adversarial Networks <i>Mohua Chen, Hanchao Liu, Lanfang Dong</i> Hair Transfer with Efficient Heuristic Chain of Editing <i>Yuansheng Ma, Dong Zhang, Suyang Zhu, Shoushan Li</i> MAGIC: Multi-prompt Any length Video Generation Model with Controllable Inter-frame Correlation and Low Barrier <i>Jialiang Xu, Weiran Chen, Lingbing Xu, Weitao Song, Yi Ji, Ying Li, Chunping Liu</i> Make Audio Solely Drive Lip in Talking Face Video Synthesis <i>Xing Bai, Jun Zhou, Pengyuan Zhang, Ruipeng Hao</i>

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Tuesday

Aula
Polivalente

Brain-inspired Computing; Applications in Music

A Multiscale Resonant Spiking Neural Network for Music Classification
Yuguo Liu, Wenyu Chen, Hanwen Liu, Yun Zhang, Liwei Huang, Hong Qu
LSTM-MorA: Melody-Accompaniment Classification of MIDI Tracks
Hui Liu, Leon Flaack, Shiyao Zhang, Tanja Schultz

Masked Image Modeling as a Framework for Self-Supervised Learning across Eye Movements

Robin Weiler, Matthias Brucklacher, Cyriel M. A. Pennartz, Sander M. Bohtë

Serial Order Codes for Dimensionality Reduction in the Learning of Higher-Order Rules and Compositionality in Planning

Krzysztof Lebioda, Alexandre Pitti, Fabrice Morin, Alois Knoll

Sparsity Aware Learning in Feedback-driven Differential Recurrent Neural Networks
Ankita Paul, Anup Das

Towards Scalable GPU-Accelerated SNN Training via Temporal Fusion
Yan Chen Li, Jiachun Li, Kebin Sun, Luziwei Leng, Ran Cheng

Foyer

Workshop on Explainable AI in Human-Robot Interaction

Introduction of TRAIL, Welcome by Stefan Wermter

Multimodal Explainability in Human-Robot Interaction

Elmira Yadollahi

User-centric Understandable Human-Robot Interaction

Ferran Gebellí

Explaining Robots through Sparse Autoencoders

Sergio Lanza

Automatic Speech Recognition Model Calibration and Explainability

Julia Gachot

Deep Learning-Based Architectures for Semantics Discovery of Entities and Events
Yanis Diallo

Visualising and Interpreting Concept Analysis Methods for Deep Neural Networks
Tamara Bila

Startup
Garage

Robotics & Human-Computer Interfaces

When Robots Get Chatty: Grounding Multimodal Human-Robot Conversation and Collaboration

Philipp Allgeuer, Hassan Ali, Stefan Wermter

Details Make a Difference: Object State-Sensitive Neurobotic Task Planning

Xiaowen Sun, Xufeng Zhao, Jae Hee Lee, Wenhao Lu, Matthias Kerzel, Stefan Wermter

Neural Formation A*: A Knowledge-Data Hybrid-Driven Path Planning Algorithm for Multi-agent Formation Cooperation

Qi'ang Cai, Xiaolin Ai, Tianqi Liu, Zhiqiang Pu, Jianqiang Yi, Feng Lv

Prompt Design using Past Dialogue Summarization for LLMs to Generate the Current Appropriate Dialogue

Yuya Okadome, Akishige Yuguchi, Ryota Fukui, Yoshio Matsumoto

PIDM: Personality-aware Interaction Diffusion Model for gesture generation

Takahiro Shibasaki, Yutaka Nakamura, Yuya Okadome

Combining Contrastive Learning and Sequence Learning for Automated Essay Scoring
Xiao Yi Wang, Jie Liu, Jianshe Zhou, Jiong Wang

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Tuesday

16:30–17:00

Coffee Break

17:00–19:00

Aula
Magna

Computer Vision - Object Detection

MUFASA: Multi-View Fusion and Adaptation Network with Spatial Awareness for Radar Object Detection

Xiangyuan Peng, Miao Tang, Huawei Sun, Kay Bierzynski, Lorenzo Servadei, Robert Wille

CPHDETR: Comprehensive Regression Loss for End-to-End Object Detection

Jihao Wu, Shufang Li, Guixia Kang, Yuqing Yang

One-Shot Object Detection with 4D-Correlation and 4D-Attention

Qiwei Lin, Xinzhi Lin, Junjie Zhou, Qinghua Long

Small Object Detection Based on Bidirectional Feature Fusion and Multi-scale Distillation

Lingyu Wang, Zijie Zhou, Guanqun Shi, Junkang Guo, Zhigang Liu

Decorating Fusion: ALiDAR-Camera Fusion Network with the Combination of Point-level and Feature-level Fusion

Zixuan Yin, Han Sun, Ningzhong Liu, Huiyu Zhou, Jiaquan Shen

CIA-Net: Cross-modal Interaction and Depth Quality-Aware Network for RGB-D Salient Object Detection

XiaoMei Kuang, Aiqing Zhu, Junbin Yuan, Qingzhen Xu

Aula

Polivalente

Cognitive & Computational Neuroscience

Revealing Functions of Extra-large Excitatory Postsynaptic Potentials: Insights from Dynamical Characteristics of Reservoir Computing with Spiking Neural Networks

Asato Fujimoto, Sou Nobukawa, Yusuke Sakemi, Yoshiho Ikeuchi, Kazuyuki Aihara

EEG Features Learned by Convolutional Neural Networks Reflect Alterations of Social Stimuli Processing in Autism

Davide Borra, Stefano Diciotti, Elisa Magosso

Hop-Gated Graph Attention Network for ASD Diagnosis via PC-Based Graph Regularization Sparse Representation

Aimei Dong, Xuening zhang, Guixin Zhao, Ruixin Wang, Jian Liu

Biologically-plausible Markov Chain Monte Carlo Sampling from Vector Symbolic Algebra-encoded Distributions

P. Michael Furlong, Kathryn Simone, Nicole S-Y Dumont, Madeleine Bartlett,

Terrence C. Stewart, Jeff Orchard, Chris Eliasmith

Estimate of the Storage Capacity of q-Correlated Patterns in Hopfield Neural Networks

Roseli S. Wedemann, Angel Ricardo Plastino, Constantino Tsallis, Evaldo Curado

Analysis of a Generative Model of Episodic Memory Based on Hierarchical VQ-VAE and Transformer

Shirin Reyhanian, Zahra Fayyaz, Laurenz Wiskott

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Tuesday

Foyer

Workshop on Explainable AI in Human-Robot Interaction

Actions Speak Louder than Words: How Transparency Shapes Trust in Robots

Keynote 2:

Marta Romeo

Aligning Action and Language for Transparent Communication

Theodor Wulff

End-to-End Interpretable Vision-based Deep Reinforcement Learning for Manipulation Control

An Tien Pham

Explaining Robot Failures: Multimodality and Incoherence

Pradip Pramanick

Counterfactual Explanations for Human-Robot Interaction

Tamlin Love

Learning Causal Legibility for Planning Human-aware Robot Motions

Hariharan Arunachalam

Startup
Garage

Environment and Climate

Short-term Forecasting of Wind Power Using CEEMDAN-ICOA-GRU Model

Yun Wu, weizheng, Yongbin Zhao, Jieming Yang, An Ning, Dan Feng

Carbon Price Forecasting with LLM-based Refinement and Transfer-Learning

Haiqi Jiang, Ying Ding, Rui Chen, Chenyou Fan

Day-ahead scenario analysis of wind power based on ICGAN and IDTW-Kmedoids

Yun Wu, Wenhan Zhao, Yongbin Zhao, Jieming Yang, Diwen Liu, Ning An, Yifan Huang

Challenges, Methods, Data - a Survey of Machine Learning in Water Distribution Networks

Valerie Vaquet, Fabian Hinder, André Artelt, Inaam Ashraf, Janine Strotherm, Jonas Vaquet, Johannes Brinkrolf, Barbara Hammer

Hybrid CNN-MLP for wastewater quality estimation

Marco Cardia, Stefano Chessa, Alessio Micheli, Antonella Giuliana Luminare, Francesca Gambineri

Enhancing Weather Predictions: Super-Resolution via Deep Diffusion Models

Petr Šimánek, Jan-Matyáš Martinů

From 19:30

Welcome Reception

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Tuesday

Poster Area

Graph Neural Networks, Time Series, and Applications

Vehicle-based Evolutionary Travel Time Estimation with Deep Meta Learning

Chenxing Wang, Fang Zhao, Haiyong Luo, Yuchen Fang, Haichao Zhang, Haoyu Xiong

CFP: A Reinforcement Learning Framework for Comprehensive Fairness-Performance Trade-off in Machine Learning

Simiao Zhang, Jitao Bai, Menghong Guan, Yueling Zhang, Jun Sun, Yihao Huang, Jiaping Wang, Chengcheng Wan, Ting Su, Geguang Pu

MSIF: Multi-Source Information Fusion for Financial Question Answering

Man Lin, Delong Zeng, Jiarui Ouyang, Ying Shen

Predicting City Origin-Destination Flow with Generative Pre-training

Mingwei Zhang, Lizhong Gao, Qiao Wang, Weihao Gao

Enhancing Fraud Detection via GNNs with Synthetic Fraud Node Generation and Integrated Structural Features

Georgia Kapetadimitri, Dimitrios Hristu-Varsakelis

Adaptive Fusion Boundary-Enhanced Multilayer Perceptual Network (FBAIM-Net) for Enhanced Polyp Segmentation in Medical Imaging

Fanyuyang Gao, Hongjin Fu, Xin Wu

Time-Aware Squeeze-Excitation Transformer for Sequential Recommendation

Hongwei Chen, Luanxuan Liu, Zexi Chen, Xia Li

Key Substructure-Driven Backdoor Attacks on Graph Neural Networks

Haibin Tong, Huifang Ma, Hui Shen, Zhixin Li, Liang Chang

Missing Data Imputation via Neighbor Data Feature-enriched Neural Ordinary Differential Equations

Zhuoqing Chang, Shubo Liu, Zhaohui Cai, Guoqing Tu

ESSformer: Transformers with ESS Attention for Long-Term Series Forecasting

Siyu Wu, Kai Xiong, Feiyang Yu, Xiyu Pan, Jianjun Li

Dynamic Graph for Biological Memory Modeling: A System-Level Validation

Hui Wei, Chenyue Feng, Jianning Zhang

Anomaly Detection in Blockchain Using Multi-source Embedding and Attention Mechanism

Ao Xiong, Chenbin Qiao, Baozhen Qi, Chengling Jiang

CauchyGCN: Preserving Local Smoothness in Graph Convolutional Networks via a Cauchy-Based Message-Passing Scheme and Clustering Analysis

Peiyu Liang, Hongchang Gao, Xubin He

An Accuracy-Shaping Mechanism for Competitive Distributed Learning

Chao Huang, Justin Dachille, Xin Liu

Robust Navigation for Unmanned Surface Vehicle Utilizing Improved Distributional Soft Actor-Critic

Jingzehua Xu, Ziqi Jia, Zekai Zhang, Tianyu Xing, Jingjing Wang, Yong Ren

Obtaining Optimal Spiking Neural Network in Sequence Learning via CRNN-SNN Conversion

Jiahao Su, Kang You, Zekai Xu, Weizhi Xu, Zhezhi He

SSA-GAT: Graph-based Self-supervised Learning for Network Intrusion Detection

Qian Liu, Zhang Hui, YouPeng Zhang, Lin Fan, Xue Jin

Position and type aware anchor link prediction across social networks

Dongwei Zhu, Yongxiu Xu, Hongbo Xu, Hao Xu, Qi Wang, Wenhao Zhu

Boosting Attributed Graph Anomaly Detection via Negative Sample Awareness

Jun Li, Meiting Li, Mark Junjie Li, Lingxuan Zhu, Jiang Liu, Gen Zhao, Xiang Luo

Learning Seasonal-Trend Representations and Conditional Heteroskedasticity for Time Series Analysis

Wen Li, Wenjun Yu, Heming Du, Shouguo Du, Jinhong You, Yiming Tang

3D-Lattice Deformation Prediction with Hierarchical Graph Attention Networks

Melvin Ciurletti, Anna-Lena von Behren, Jannik Bühring, Sebastian Otte

Edged Weisfeiler-Lehman algorithm

xiao yue, Bo Liu, Feng Zhang, Guangzhi Qu

RD-Crack: A Study of Concrete Crack Detection Guided by a Residual Neural Network Improved Based on Diffusion Modeling

Yubo Huang, Xin Lai, Zixi Wang, Muyang Ye, Yinmian Li, Yi Li, Fang Zhang, Chenyang Luo

Beyond Homophily: Attributed Graph Anomaly Detection via Heterophily-aware Contrastive Learning Network

Wangyu Jin, Huifang Ma, Yingyue Zhang, Zhixin Li, Liang Chang

HierNBeats: Hierarchical Neural Basis Expansion Analysis for Hierarchical Time Series Forecasting

Haoran Sun, Wenting Tu, Jiajie Zhan, Wanting Zhao

ComMGAE: Community Aware Masked Graph AutoEncoder

Gaohang Jiang, Xu Jin, Mengyu Luo, Jianxia Chen, Zhongwei Huang, Jing Wang

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Wednesday

Programme Schedule

9:00 – 10:00	Aula Magna	Keynote Tanja Schultz
10:00 – 10:30		Coffee Break
10:30 – 12:30	Aula Magna	Multimodality Exploring Interpretable Semantic Alignment for Multimodal Machine Translation <i>Guojing Liu, Xiangqian Ding, Nanzhe Ding, Huiji Gong, Zhenyu Yang, Xiangyu Qu</i> Unifying Visual and Semantic Feature Spaces with Diffusion Models for Enhanced Cross-Modal Alignment <i>Yuze Zheng, Zixuan Li, Xiangxian Li, Jinxing Liu, Yuqing Wang, Xiangxu Meng, Lei Meng</i> Modal fusion-Enhanced two-stream hashing network for Cross modal Retrieval <i>ziyonglin, Xiaolong Jiang, Jie Zhang, Li Mingyong</i> CAW: Confidence-based Adaptive Weighted Model for Multi-modal Entity Linking <i>yongtao tang, shasha li, jie yu, jun ma</i>
Aula Polivalente		Theoretical Contributions in Machine Learning and Neural Networks 1 On the Bayesian Interpretation of Robust Regression Neural Networks <i>Jan Kalina, Petra Vidnerova</i> Use of Riemannian distance metric to verify topological similarity of acoustic and text domains <i>Zhandos Yessenbayev, Zhanibek Kozhirbayev</i> Probability-Generating Function Kernels for Spherical Data <i>Theodore Papamarkou, Alexey Lindo</i> Towards a model of associative memory with learned distributed representations <i>Matej Fandl, Martin Takáč</i> Topology of Neural Processes <i>Tai JinYang, Guo Yike</i> Combined Global and Local Information Diffusion of Neural Processes <i>Tai JinYang, Guo Yike</i>
Foyer		Applications Detecting Railway Track Irregularities Using Conformal Prediction <i>Andreas Plesner, Allan Peter Engsig-Karup, Hans True</i> APF-DQN: Adaptive Objective Pathfinding via Improved Deep Reinforcement Learning among Building Fire Hazard <i>Ke Zhang, Dandan Zhu, Qiuhan Xu, Hao Zhou, Xuemei Peng</i> A Temporal-Enhanced Model for Knowledge Tracing <i>Shaoguo Cui, Mingyang Wang, Song Xu</i> Efficient Fine-tuning for Low-resource Tibetan Pre-trained Language Models <i>mingjun zhou, Zhuoma DAIQING, Nuo Qun, Tashi NYIMA</i> Identifying the Trends of Technological Convergence between Domains using a Heterogeneous Graph Perspective: A Case Study of the Graphene Industry <i>Shan Jiang, Yuan Meng, Danni Zhou</i> Machine Learning Accelerated Prediction of 3D Granular Flows in Hoppers <i>Duy Le, Linh Nguyen, Truong Phung, David Howard, Gayan Kahandawa, Manzur Murshed, Gary Delaney</i>

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Wednesday

Startup Garage	Workshop Reservoir Computing Welcome Invited Talk - What is a Good Reservoir <i>Peter Tino</i> Onion Echo State Networks: A Preliminary Analysis of Dynamics <i>Domenico Tortorella, Alessio Micheli</i> Effects of Input Structure and Topology on Input-Driven Functional Connectivity Stability <i>Peter Ford Dominey</i> Prediction of Reaching Movements with Target Information towards Trans-humeral Prosthesis Control using Reservoir Computing and LSTMs <i>Paul Bernard, Frederic Alexandre, Xavier Hinaut</i>
Library room	Special Session: Neurobotics Self-organized attractoring in locomoting animals and robots: an emerging field <i>Claudius Gros, Bulcsú Sándor</i> Action recognition system integrating motion and object detection <i>Michal Vavrečka, Anastasia Ostapenko</i> Robotic model of mirror neuron system: a revival <i>Kristina Malinová, Jakub Mišovský</i> Learning Low-Level Causal Relations using a Simulated Robotic Arm <i>Miroslav Cibula, Matthias Kerzel, Igor Farkaš</i> Active Vision for Physical Robots using the Free Energy Principle <i>Gabriel Haddon-Hill, Shingo Murata</i> Modular Reinforcement Learning In Long-Horizon Manipulation Tasks <i>Michal Vavrečka, Gabriela Šejnová, Jonáš Kríž, Nikita Sokovnin</i>
12:30 – 14:00	Lunch Break
14:00 – 16:00	Aula Magna
	Computer Vision - Security and Adversarial Attacks HFDA-Net: Utilizing High-Frequency Feature and Dual-Attention to Enhance Image Manipulation Detection and Localization <i>Chengeng Liu, Xu Chen, Tian Xu, Xiangyang Jia</i> Noise-NeRF: Hide Information in Neural Radiance Fields using Trainable Noise <i>Qinglong Huang, Haoran Li, Yong Liao, Yanbin Hao, Pengyuan Zhou</i> Generative Universal Nullifying Perturbation for Countering Deepfakes through Combined Unsupervised Feature Aggregation <i>Yuchen Guo, Wang Xi, Fu Xiaomeng, Liu Jin, Zhaoxing Li, Han Jizhong</i> Generalizable Deepfake Detection with Unbiased Feature Extraction and Low-level Forgery Enhancement <i>Yu Zhihan, Li Jiabin, Luo Guibo, Guangshuo Wang, yuesheng zhu</i> Enhanced Image Manipulation Detection with TPB-Net: Integrating Triple-Path Backbone and Dual-Path Compressed Sensing Attention <i>Huaqing Song</i>

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Wednesday

Aula Polivalente	Theoretical Contributions in Machine Learning and Neural Networks 2 Multi-label Robust Feature Selection via Subspace-Sparsity Learning <i>YunYa Zhou, Bin Yuan, Yan Zhong, Yu Ling Li</i> Transformer Tracker based on Multi-level Residual Perception Structure <i>Zhenhai Wang, Hui Chen, Lutao Yuan, Ying Ren, Hongyu Tian</i> Enhancing Generalization in Convolutional Neural Networks through Regularization with Edge and Line Features <i>Christoph Linse, Beatrice Brückner, Thomas Martinetz</i> Nullspace-based metric for classification of dynamical systems and sensors <i>Dominique Martinez, Mohamed Boutayeb</i> Differentiable Largest Connected Component Layer for Image Matting <i>Xinshuang Liu, Yue Zhao</i>
Foyer	Tutorial: A Hands-on Introduction to Time Series Feature Extraction with the TSFEL Library <i>Duarte Folgado, Fraunhofer AICOS, NOVA FCT, Portugal</i> <i>Hui Liu, University of Bremen, German</i>
Startup Garage	Workshop Reservoir Computing Reducing Reservoir Dimensionality with Phase Space Construction for Simplified Hardware Implementation <i>Yuanyang Guo, Robin Degraeve, Philippe Roussel, Ben Kaczer, Erik Bury, Ingrid Verbauwhede</i> Restricted Reservoirs on Heterogeneous Timescales <i>Chester Wringe, Susan Stepney, Martin A. Trefzer</i> Oscillation-driven Reservoir Computing for Long-term Replication of Chaotic Time Series <i>Yuji Kawai, Takashi Morita, Jihoon Park, Minoru Asada</i> Non-dissipative Reservoir Computing Approaches for Time-series Classification <i>Claudio Gallicchio, Andrea Ceni</i> Closing Remarks
Library room	Federated Learning Addressing the Privacy and Complexity of Urban Traffic Flow Prediction with Federated Learning and Spatiotemporal Graph Convolutional Networks <i>Keyi Zhou, Yuan Liu</i> Federated Adversarial Learning for Robust Autonomous Landing Runway Detection <i>Yi Li, Plamen Angelov, Zhengxin Yu, Alvaro Pellicer, Neeraj Suri</i> Security Assessment of Hierarchical Federated Deep Learning <i>Duaa S. Alqattan, Rui Sun, Huizhi Liang, Giuseppe Nicosia, Vaclav Snašel, Rajiv Ranjan, Varun Ojha</i> Layer-wised Sparsification Based on Hypernetwork for Distributed NN Training <i>Yusen Wu, Jiaxun Li, Qing Ye</i> FedInc: One-shot Federated Tuning for Collaborative Incident Recognition <i>Huangsiyuan Qin, Ying Li</i>
16:00 – 16:30	Coffee Break
16:30 – 17:30	Keynote Michael W. Reimann

18.09

Wednesday

Poster Area

Human-Centered Applications

BiFAT: Bilateral Filtering and Attention Mechanisms in a Two-Stream Model for Deepfake Detection

Lei Zhang, Ceyuan Yi, Liang Liu

Multimodal Monocular Dense Depth Estimation with Event-Frame Fusion using Transformer

Baihui Xiao, Jingzhehua Xu, Zekai Zhang, Tianyu Xing, Jingjing Wang, Yong Ren

Siamese visual tracking with correlation and awareness

Rui Li, Jinlong Li

ProGEO: Generating Prompts through Image-Text Contrastive Learning for Visual Geo-localization

Jingqi Hu, Chen Mao, Chong Tan, Hui Li, Hong Liu, Min Zheng

ARIF: An Adaptive Attention-Based Cross-Modal Representation Integration Framework

Chengzhi Liu, Zihong Luo, Yifei Bi, Zile Huang, Dong Shu, Jiheng Hou, Hongchen Wang, Kaiyu Liang

Interactive Color Manipulation in NeRF: A Point Cloud and Palette-driven Approach

Haolei Qiu, Chenqu Ren, Yeheng Shao

DTG: Learning A Dynamic Token Graph for 3D Pose Forecasting

Yangliu He, Haoge Deng, Qiwei Shen, Jianxin Liao

Global-Guided Weighted Enhancement for Salient Object Detection

Jizhe Yu, Yu Liu, Hongkui Wei, Kaiping Xu, Yifei Cao, Jiangquan Li

Weakly-Supervised Semantic Segmentation via Label Re-assignment in Dual-view Framework

Chen Wang, Di Zhang, Xiaolong Li, Huifang Ma, Zhixin Li

SAM-NeRF: NeRF-based 3D Instance Segmentation with Segment Anything Model

Xi Wang, Linglin Xie, Peng Qiao, Yong Dou, Sidun Liu, Wenyu Li, Kaijun Yang

Cross-Modal Attention Alignment network with Auxiliary Text Description for zero-shot sketch-based image retrieval

Hanwen Su, GE SONG, Kai Huang, Jiyang Wang, Ming Yang

ControlNeRF: Text-Driven 3D Scene Stylization via Diffusion Model

Jiahui Chen, Chuanfeng Yang, Kaiheng Li, Qingqi Hong, Qingqiang Wu

EDAFormer: Enhancing Low-Light Images with a Dual-Attention Transformer

Jin Zhang, Haiyan Jin, haonan su, Yuanlin Zhang, Zhaolin Xiao, Bin Wang

BVRCC: Bootstrapping Video Retrieval via Cross-matching Correction

Luozheng Qin, Shaoyao Huang, Qian Qiao, Xu Yan, Ziqiang Cao

EL-FDL: Improving Image Forgery Detection and Localization via Ensemble Learning

Bin Wang, Feifan Wang, Jingge Wang, Haonan Yan, Shaopeng Zhou, Chaohao Li

SCI-Font: Enhancing Content-Style Representation for Chinese Calligraphy Generation with Skeleton, Contour and Inexact Paired Data

Yan Zhang, Yefei Wang, Jialu Xiong, Jie Zhou, Jinshan Zeng

Learning Object Permanence from Videos via Latent Imaginations

Manuel Traub, Frederic Becker, Sebastian Otte, Martin V. Butz

Unconventional Face Adversarial Attack

Ruoxi Wang, Baojin Huang, Zhen Han, Dengshi Li

Text Visual Question Answering Based on Interactive Learning and Relationship Modeling

Chao Zhang, Wei Wu, Bingzhuo Ma

Self Adaptive Threshold Pseudo-labeling and

Unreliable Sample Contrastive Loss for Semi-supervised Image Classification

Xuerong Zhang, Li Huang, Jing Lv, Ming Yang

MFPNet: A Multi-scale Feature Propagation Network for Lightweight Semantic Segmentation

Guoan Xu, Wenjing Jia, Tao Wu, Ligeng Chen, Guangwei Gao

Dual Dreamer: Extending Single-view Dreamer with Few shot of Complementary Views

Ziteng Zhang, Peng Qiao, Yong Dou, Sidun Liu, Wenyu Li, Cao Li, Chen Luo

Alignment-Enhanced Network for Temporal Language Grounding in Videos

Hong Yu, Yu Zhang, Yuanqiu Liu, Hui Li, Han Liu

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Thursday

Programme Schedule

9:00 – 10:00		Keynote Walter Senn
10:00 – 10:30		Coffee Break
10:30 – 12:30	Aula Magna	Computer Vision – Segmentation Measuring Affinity: Similarity-based Auxiliary Unlabeled Guidance for Few-Shot Segmentation <i>Yao Shen, Chunmeng Liu, hanlin chen, Kaiyang Zeng, Guangyao Li</i> Loci-Segmented: Improving Scene Segmentation Learning <i>Manuel Traub, Frederic Becker, Adrian Sauter, Sebastian Otte, Martin V. Butz</i> DGFormer: A Dynamic Kernel with Gaussian Fusion Transformer for Semantic Image Segmentation <i>Haoran Yang, longyi Tang, tingting wu, Binyu Yan</i> Integrating Audio-Visual Contexts with Refinement for Segmentation <i>Qingwei Geng, Xiaodong Gu</i>
	Aula Poivalente	Neural Architectures 1 T-DVAE: A Transformer-based Dynamical Variational Autoencoder for Speech <i>Jan-Ole Perschewski, Sebastian Stober</i> A Novel Graph Neural Network Based Model for Text Classification <i>Rui Xiong, Hongying Zheng, Zongbing Wang</i> NAS-Bench-Compre: A Comprehensive Neural Architecture Search Benchmark with Customizable Components <i>Di Wang, Kun Jing, Jungang Xu</i> Feature Activation-Driven Zero-Shot NAS: A Contrastive Learning Framework <i>Di Wang, Xunzhi Xiang, Kun Jing, Jungang Xu</i> Accelerated NAS via pretrained ensembles and multi-fidelity Bayesian Optimization <i>Houssem Ouertatani, Cristian Maxim, Smail Niar, El-Ghazali Talbi</i> NAVIGATOR-D3: Neural Architecture search using Variational Graph Auto-encoder Toward Optimal Architecture Design for Diverse Datasets <i>Kazuki Hemmi, Yuki Tanigaki, Masaki Onishi</i>
	Foyer	Workshop Artificial Intelligence in Drug Discovery, Part 1 Invited Talk - The Use of Active Learning for Effective Exploration of Chemical Universe <i>Artem Chersakov</i> Temporal Evolution of Probability Calibration with Experimental Errors <i>Rosa Friesacher</i> Atom-Level Quantum Pretraining Enhances the Spectral Perception of Molecular Graphs in Graphomer <i>Alessio Fallani</i> Leveraging Quantum Mechanical Properties to Predict Solvent Effects on Large-Drug Molecules <i>Mathias Hilfiker</i> Balancing Imbalanced Toxicity Predictor: Using MolBERT with Focal Loss <i>Muhammad Arslan Masood</i> Curating Reagents in Chemical Reaction Data with an Interactive Reagent Space Map <i>Mikhail Andronov</i>

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Thursday

Startup
Garage

Sentiment Analysis & Text understanding

WKE: Word-level Knowledge Enrichment for Aspect Term Extraction
Chaoqun Liu, Yu Hong, Qingting Xu, Jianmin Yao

Knowledge Base Question Generation via Data Augmentation with Dynamic-prompt
Long Zhao, Yin Xu, Yanyan Wang, Fei Li

ABSA Methodology Based on Interval-enhanced Talking-heads Attention Network
Yun Wu, Yifan Huang, Jieming Yang, Yongbin Zhao, Ning An, Dan Feng

An Evaluation Dataset for Targeted Sentiment Analysis in Long-Form Chinese News Articles

Rui Chen, Tailai Peng, Xinran Xie, Dekun Lin, Zhe Cui, Zheng Chen

Generative Sentiment Analysis via Latent Category Distribution and Constrained Decoding

Jun Zhou, Dongyang Yu, Kamran Aziz, Fangfang Su, Qing Zhang, Fei Li, Donghong Ji

EKD: Effective Knowledge Distillation for Few-Shot Sentiment Analysis
Kehan Jiang, Hongtian Cai, Yingda Lv

Library
room

Special Session: Spiking Neural Networks

Temporal Contrastive Learning for Spiking Neural Networks

Haonan Qiu, Zeyin Song, Yanqi Chen, Munan Ning, Wei Fang, Tao Sun, Zhengyu Ma, Li Yuan, Yonghong Tian

A Multi-modal Spiking Meta-learner With Brain-inspired Task-aware Modulation Scheme

Jun Niu, Zhaokun Zhou, Kaiwei Che, Li Yuan

On Reducing Activity with Distillation and Regularization for Energy Efficient Spiking Neural Networks

Thomas Louis, Alain Pegatoquet, Benoit Miramond, Adrien Girard

A Multiscale Resonant Spiking Neural Network for Music Classification
Yuguo Liu, Wenyu Chen, Hanwen Liu, Yun Zhang, Liwei Huang, Hong Qu

Natively neuromorphic LMU architecture for encoding-free SNN-based HAR on commercial edge devices

Vittorio Fra, Benedetto Leto, Andrea Pignata, Enrico Macii, and Gianvito Urgese

Event-based hand detection on neuromorphic hardware using a Sigma Delta neural network

Loic Azzalini, Stefan Glüge, Jens Struckmeier, Yulia Sandamirskaya

Learning in Recurrent Spiking Neural Networks with Sparse full-FORCE Training
Paul Ankita, Das Anup

12:30 – 14:00

Lunch Break

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Thursday

14:00 – 16:00	Aula Magna	Computer Vision - 3D methods and image enhancement A Study in Dataset Pruning for Image Super-Resolution <i>Brian Moser, Federico Raue, Andreas Dengel</i> Towards High-Accuracy Point Cloud Registration with Channel Self-Attention and Angle Invariance <i>Jinhong Hong, Songwei Pei, Shuhuai Wang</i> Video Understanding Using 2D-CNNs on Salient Spatio-temporal Slices <i>Yaxin Hu, Erhardt Barth</i> Image Matting Based on Deep Equilibrium Models <i>Xinshuang Liu, Yue Zhao</i> EMDFNet: Efficient Multi-scale and Diverse Feature Network for Traffic Sign Detection <i>Pengyu Li, Chenhe Liu, Tengfei Li, Xinyu Wang, Shihui Zhang, Dongyang Yu</i>
	Aula Polivalente	Neural Architectures 2 A Neuron Coverage-based Self-Organizing Approach for RBFNNs in Multi-Class Classification Tasks <i>Alberto Ortiz</i> Self-Organising Neural Discrete Representation Learning à la Kohonen <i>Kazuki Irie, Robert Csordas, Juergen Schmidhuber</i> Asymmetric Isomap for Dimensionality Reduction and Data Visualization <i>Dominik Olszewski</i> Ch4os: Discretized Generative Adversarial Network for Functionality-preserving Evasive Modification on Malware <i>Christopher Molloy, Furkan Alaca, Steven H. H. Ding</i> Resonator-Gated RNNs <i>Robert Deibel, Shahram Eivazi, Martin V. Butz, Sebastian Otte</i> Generative Chain-of-Thought for Zero-shot Cognitive Reasoning <i>Liang Liu, Dong Zhang, Suyang Zhu, Shoushan Li</i>
	Foyer	Workshop Artificial Intelligence in Drug Discovery, Part 2 Improving Rule Development Using Convergent Retrosynthesis Planning <i>Paula Torren Peraire</i> Towards Interpretable Models of Chemist Preferences for Human-in-the-loop Assisted Drug Discovery <i>Yasmine Nahal</i> Enhancing Interpretability in Molecular Property Prediction with Contextual Explanations of Molecular Graphical Depictions <i>Marco Bertolini</i> <i>Latent-Conditioned</i> Equivariant Diffusion for Structure-based De Novo Ligand Generation <i>Julian Cremer</i> Geometrically Guided Diffusion for Molecular Generation <i>Justin Diamond</i> Scaffold Splits Overestimate Virtual Screening Performance <i>Pedro Ballester</i>

19.09

Thursday

Startup Garage	Medical Image Processing 1 SCST: Spatial Consistent Swin Transformer for Multi-Focus Biomedical Microscopic Image Fusion <i>Dengpan Liu, Jiacheng Zhang, Yong Luo, Baochuan Pang, Dehua Cao, Cheng Li, Xin Zhou, Bohan Yang</i> EDPS-SST: Enhanced Dynamic Path Stitching with Structural Similarity Thresholding for Large-Scale Medical Image Stitching under Sparse Pixel Overlap <i>Zhuan Han, Dixiao Tao, Yong Luo, Baochuan Pang, Dehua Cao, Cheng Li, Xin Zhou, Bohan Yang, Bohan Yang</i> Transferability of Non-Contrastive Self-Supervised Learning to Chronic Wound Image Recognition <i>Julien Akay, Wolfram Schenck</i> CurSegNet: 3D Dental Model Segmentation Network Based on Curve Feature Aggregation <i>Jiafa Mao, Zhan Liu, Jingke Gu, Chunping Wang, Sixian Chan</i> Predicting Deterioration in Mild Cognitive Impairment with Survival Transformers, Extreme Gradient Boosting and Cox Proportional Hazard Modelling <i>Daniel Stamate, Doina Logofatu, Daniel Stahl, Henry Musto</i>	
Library room	Special Session: Accuracy, Stability, Robustness The Challenge of Building Stable, Accurate and Robust Data-driven AI <i>Keynote Ivan Tyukin</i> Some Comparisons of Linear and Deep ReLU Network Approximation <i>Vera Kůrková</i> Robustness of Biologically Grounded Neural Networks against Image Perturbations <i>M. Teichmann, René Larisch, Fred H. Hamker</i> MADE: A universal fine-tuning framework to enhance robustness of machine reading comprehension <i>Yang Cao, Yinglin Wang</i> Unlearnable Examples Detection via Iterative Filtering <i>Yi Yu, Qichen Zheng, Siyuan Yang, Wenhan Yang, Jun Liu, Shijian Lu, Yap-Peng Tan, Kwok-Yan Lam, and Alex Kot</i> Clean-image Backdoor Attacks <i>Dazhong Rong, Guoyao Yu, Shuheng Shen, Xinyi Fu, Peng Qian, Jianhai Chen, Qinming He, Xing Fu, Weiqiang Wang</i> Discussion	
16:00 – 16:30	Coffee Break	
16:30 – 17:30	Aula Magna	ENNS General Assembly
9:00 – 10:00		Conference Dinner

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Thursday

Poster Area

Human-Centered Applications

Elucidation of Molecular Substructures from Nuclear Magnetic Resonance Spectra using Gradient Boosting
Berman, Aperstein, Yosipof

SCANet: Dual Attention Network for Alzheimer's Disease Diagnosis Based on Gated Residual Mechanism and Spatial Asymmetry Mechanism
Donghan Wu, Shuyuan Yang, Zhichang Wang, Shuqi Yang, Ping Liang, Boxun Zhang, Yi Li, Jiaqing Miao, Ying Tan

Identify Disease-associated miRNA-miRNA Pairs through Deep Tensor Factorization and Semi-supervised Learning
Ruo Chen Wang, Jiacheng Pan, Shuting Xu

MSD-HAM-Net: A Multi-modality Fusion Network of PET/CT Images for the Prognosis of DLBCL Patients
Zhaoyan Dai, Jianxin Chen, Fengyi Lin, Yu Chen, Yawen Fan, Chong Jiang, Jingyan Xu

CapsDA-Net: A Convolutional Capsule Domain-Adversarial Neural Network for EEG-Based Attention Recognition
Qian Wu, Yongjian Chen, Yuyu Sun, Jiahui Pan

Registries in Machine Learning-Based Drug Discovery: A Shortcut to Code Reuse
Svensson, Mervin, Genheden, Engkvist, Tetko, Hartog

DBrAL: A novel uncertainty-based active learning based on deep-broad learning for medical image classification
Hongjiang Wu, Yuping Zhong, Guoqiang Han, Jiatai Lin, Zaiyi Liu, Chu Han

ComplicaCode: Enhancing Disease Complication Detection in Electronic Health Records through ICD Path Generation
Xiaofan Zhou

Generally-Occurring Model Change for Robust Counterfactual Explanations
Ao Xu, Tieru Wu

Enhancing Counterfactual Image Generation Using Mahalanobis Distance with Distribution Preferences in Feature Space
Yukai Zhang, Ao Xu, Zihao Li, Tieru Wu

LGCRS: LLM-Guided Representation-Enhancing for Conversational Recommender System
Ruobing Wang, Xin He, Hengrui Gu, Xin Wang

Target-Aware Drug Activity Model: A deep learning approach to virtual HTS
Czaplak, Frączek, Ambrogi, Kmiciekiewicz, Wichard, Karawajczyk

Exploring Task-Specific Dimensions in Word Embeddings Through Automatic Rule Learning
Liyuan Gao, Victor S. Sheng, Huixin ZHAN

Depression Diagnosis and Analysis via Multimodal Multi-order Factor Fusion
Chengbo Yuan, Xuxu Liu, Qianhui Xu, Yongqian Li, Yong Luo, Xin Zhou

Enhancing Visual Generalization in Reinforcement Learning with Cycling Augmentation
Shengjie Sun, Jiafei Lyu, Lu Li, Jiazhe Guo, Yan, Runze Liu, Xiu Li

Multi-intent Aware Contrastive Learning for Sequential Recommendation
Junshu Huang, Zi Long, Xianghua Fu, Yin Chen

Click-Through Rate Prediction Based on Filtering-enhanced with Multi-Head Attention
Meihan Yao, Shuxi Zhang, Lang LV, Jianxia Chen, Mengyu Luo, Gaohang Jiang, Liang Xiao, Zhina Song

Blood Cell Detection and Self-attention-based Mixed Attention Mechanism
Jixuan Wang, Qian Huang, Yulin Chen, Linyi Qian

Interpretable EHR Disease Prediction System Based on Disease Experts and Patient Similarity Graph (DE-PSG)
Wenxiang Li, K. L. Eddie Law

CellSpot: Deep Learning-Based Efficient Cell Center Detection in Microscopic Images
Nabeel Khalid, Maria Caroprese, Gillian Lovell, Johan Trygg, Andreas Dengel, Sheraz Ahmed

Dynamic Modeling for Reinforcement Learning with Random Delay
Yalou Yu, Bo Xia, Minzhi Xie, Zhiheng Li, Xueqian Wang

Asymmetric Actor-Critic for Adapting to Changing Environments in Reinforcement Learning
Wangyang Yue, Yuan Zhou, Xiaochuan Zhang, Yuchen Hua, Minne Li, Zunlin Fan, Zhiyuan Wang, Guang Kou

Point-based Weakly Supervised 2.5D Cell Segmentation
Fabian Schmeisser, Andreas Dengel, Sheraz Ahmed

Self-supervised Pre-training Framework based on Adaptive Masked Image Modeling for Retinal Vessel Segmentation
Jiuyuan Zhu, Wei Chen, Chen Li, Tianci Xun, Chunjiao Tan, Weiwei Zheng, Yingqi Xu, Peng Qiao

Enhancing Sequential Recommendation via Aligning Interest Distributions
Yiyuan Zheng, Beibei Li, Beihong Jin, Rui Zhao

Deep Bayesian Experimental Design for Drug Discovery
Masood, Cui, Kaski

Accelerating the inference of string generation-based chemical reaction models for industrial applications
Andronov, Andronova, Wand, Schmidhuber, Clevert

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Friday

Programme Schedule

8:30 – 10:30	Aula Magna	Computer Vision - Tracking and Video Dual-Branch Network with Online Knowledge Distillation for 3D Hand Pose Estimation <i>Yingqi He, Dehui Kong, Baocai Yin, Jinghua Li</i> DT2S-Pose: A Deeper Temporal-Spatial Skeleton Refine Model for Pedestrian Pose Estimation <i>Zheyang Gao, Jinyan Chen, Yuxin Liu, Yucheng Jin</i> MovePose: A High-performance Human Pose Estimation Algorithm on Mobile and Edge Devices <i>Dongyang Yu, Haoyue Zhang, Ruisheng Zhao, Guoqi Chen, Wangpeng An, Yang Yanhong</i> SSFlowNet: Semi-supervised Scene Flow Estimation On Point Clouds With Pseudo Label <i>Jingze Chen, Simiao Zhuang, Qiqin Lin, Junfeng Yao, Lei Li</i> Large Language Model for Action Anticipation <i>Wei Li, Dezha Luo, Dongbao Yang, Weiping Wang</i> Boundary-aware and Noise-resistant Video Moment Retrieval <i>Fengzhen Yu, Xiaodong Gu</i>
	Aula Polivalente	Language Modeling 1 REM: A Ranking-based Automatic Evaluation Method for LLMs <i>Jintao Yang, Yushan Tan, Wenpeng Hu, Zonghao Yang, Xian Zhou, Zhunchen Luo, Wei Luo</i> Large Language Model Ranker with Graph Reasoning for Zero-Shot Recommendation <i>Xuan Zhang, Chunyu Wei, Ruyi Yan, Yushun Fan, Zhixuan Jia</i> Generic Joke Generation with Moral Constraints <i>Hiroaki Yamane</i> CSAFT: Continuous Semantic Augmentation Fine-Tuning for Legal Large Language Models <i>Bo Li, Shuang Fan, Jin Huang</i>
	Foyer	Workshop Artificial Intelligence in Drug Discovery, Part 3 Cross Multimodal Learning of Cell Painting and Transcriptomics Data <i>Son Ha</i>
	Startup Garage	Novel Methods in Machine Learning Learning Solutions of Stochastic Optimization Problems with Bayesian Neural Networks <i>Alan Lahoud, Erik Schaffernicht, Johannes Stork</i> ResBuilder: Automated Learning of Depth with Residual Structures <i>Julian Burghoff, Matthias Rottmann, Jill von Conta, Sebastian Schoenen, Andreas Witte, Hanno Gottschalk</i> CALICO: Confident Active Learning with Integrated Calibration <i>Lorenzo Querol, Hajime Nagahara, Hideaki Hayashi</i> Adaptive Compression of the Latent Space in Variational Autoencoders <i>Gabriela Sejnova, Michal Vavrecka, Karla Stepanova</i> Safe Data Resampling Method based on Counterfactuals Analysis <i>Diwen Liu, Xiaodong Yue, Zhikang Xu</i>

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Friday

10:30 – 11:00

Coffee Break

11:00 – 13:00

Aula
Magna

Topics in Computer Vision

Driver Safety System: A Real-time Sleep Detection and Lane Detection Model using IoT and Deep Learning

Gokul Sudheesh, Aparna Raj, Sujala Shetty

KDNet: Leveraging Vision-Language Knowledge Distillation for Few-Shot Object Detection

Mengyuan Ma, Lin Qian, Huijun Yin

Let Multi-Classification Help Deep Imbalanced Regression

Dekun Lin, Tailai Peng, Rui Chen, Xinran Xie, Zhe Cui

DDPM-MoCo: Advancing Industrial Surface Defect Generation and Detection with Generative and Contrastive Learning

Xiaozong Yang, Huailiang Tan, Xinyan Wang

Gaze target detection with Visual Prompt Tuning based on attention

Ting Huang, Jian Huang

Hybrid Encoder for Anomaly Detection Based on Latent Feature Regularization

Jinquan Zeng, Junwei Wang, Yunpeng Wang

Aula

Polivalente

Language Modeling 2

CoT-BERT: Enhancing Unsupervised Sentence Representation through Chain-of-Thought

Bowen Zhang, Kehua Chang, Chungping Li

End-to-End Training of Back-Translation Framework with Categorical Reparameterization Trick

DongNyeong Heo, Heeyoul Choi

FashionGPT: A Large Vision-Language Model for Enhancing Fashion Understanding

Duanxiao Song, Dehong Gao, Gongshen Liu, Xiaoyong Li

Towards Persona-oriented LLM-generated Text Detection: Benchmark Dataset and Method

Siqi Wang, Shiyao Cui, Chuang Zhang, Zefeng Zhang, Jing Wang, Tingwen Liu

Foyer

Workshop Artificial Intelligence in Drug Discovery, Part 4

Target-aware Drug Activity Model: A Deep Learning Approach to Virtual HTS

Anna Karawajczyk, Symon Czaplak

Temporal Evolution of Uncertainty Classification under Distribution Shift

Emma Svensson

Artificial Intelligence Methods for Evaluating Mitochondrial Dysfunction: Exploring Various Chemical Notations Suitable for Neural Language Processing Models

Eduardo Viganò

Combinatorial Library Neural Network (CoLiNN) for Combinatorial Library Visualization without Compound Enumeration

Regina Pikalyova

De Novo Drug Design - Do We Really Want to be "Original"? A Real-world Case Study on Colchicine-site Tubulin Binders

Dragos Horvath

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Friday

Startup Garage	Graph Neural Networks CTQW-GraphSAGE: Trainable Continuous-Time Quantum Walk On Graph <i>Yangjie Xu, Hui Huang, Radu State</i> Invariant Graph Contrastive Learning for Mitigating Neighborhood Bias in Graph Neural Network based Recommender Systems <i>Zhenyu Mu, Jianghao Lin, Xiaoyu Zhu, Weinan Zhang, Yong Yu</i> Multi-graph Fusion and Virtual Node Enhanced Graph Neural Networks <i>Yachao Yang, Yanfeng Sun, Jipeng Guo, Shaofan Wang, Baocai Yin</i> STGNA: Spatial-Temporal Graph Convolutional Networks with Node Level Attention for Shortwave Communications Parameters Forecasting <i>Zehua He, Qingjiang Shi, Zhongxiang Wei, Ya Tu, Lantu Guo</i> Graph-Guided Multi-View Text Classification: Advanced Solutions for Fast Inference <i>nangao, Yongjian Wang, Peng Chen, xin zheng</i>	
13:00 – 14:30	Lunch Break	
14:30 – 16:30	Aula Magna	Methods in Machine Learning Virtual Nodes based Heterogeneous Graph Convolutional Neural Network for Efficient Long-Range Information Aggregation <i>Ranhui Yan, Jia Cai</i> Model Based Clustering of Time Series Utilizing Expert ODEs <i>András Formanek, Edward De Brouwer, Péter Antal, Yves Moreau, Ádám Arany</i> Test-Time Augmentation for Traveling Salesperson Problem <i>Ryo Ishiyama, Takahiro Shirakawa, Seiichi Uchida, Shinnosuke Matsuo</i> Towards Generalizable and Interpretable AI-Modified Image Detectors <i>Xinshuang Liu, Yue Zhao</i>
Aula Polivalente	Topics In Speech and Language Summarizing Like Human: Edit-Based Text Summarization with Keywords <i>Yukang Liang, Junliang Guo, Yongxin Zhu, Linli Xu</i> Reinforced Keyphrase Generation with Multi-Dimensional Reward <i>Ying Yang, Peng Yang, Guoshun Yin, Dongmei Yang</i> Combining Data Generation and Active Learning for Low-Resource Question Answering <i>Maximilian Kimmich, Andrea Bartezzaghi, Jasmina Bogojeska, Cristiano Malossi, Thang Vu</i> Multi-stage vs Single-stage: A Local Information Focused Approach for Overlapping Event Extraction <i>Shuaihu Han, Guohua Yang, Dawei Zhang, Jianhua Tao, Feihu Che</i> Enhancing Zero-Shot Translation in Multilingual Neural Machine Translation: Focusing on obtaining Location-Agnostic Representations <i>Jia Rui Zhang, Yue Hu, He Yan Huang, Ping Guo</i>	

20.09

Friday

Foyer

Medical Image Processing 2

Multi-Modal Multi-Scale State Space Model for Medical Visual Question Answering
Qishen Chen, Minjie Bian, Wenxuan He, Huahu Xu

MISS: A Generative Pre-training and Fine-tuning Approach for Med-VQA
Jiawei Chen, Dingkang Yang, Yue Jiang, Yuxuan Lei, Lihua Zhang

Two-stage Medical Image-text Transfer with Supervised Contrastive Learning
Xingren Wang, Yining Wang, Jiayue Li, Shufang Li, Sixing Yin

Relative Local Signal Strength: the Impact of Normalization on the Analysis of Neuroimaging Data with Deep Learning

Giovanni Donghi, Luca Pasa, Alberto Testolin, Marco Zorzi, Alessandro Sperduti, Nicolò Navarin

Classification of Dehiscence Defects in Titanium and Zirconium Dental Implants using Machine Learning

Antônio Barros da Silva Netto, Willian Oliveira, Cleber Zanchettin

Advancing Free-breathing Cardiac Cine MRI: Retrospective Respiratory Motion Correction Via Kspace- and Image Guided Diffusion Model

Hongming Guo, Ziqing Huang, Qian Yuan, Hanbo Song, Zhiyan Liu, Xianzhao Feng, Anqi Liu, Min Liu, Ke Li, Ruixi Zhou

Startup
Garage

Recommender Systems and Time Series Processing

Fusion of Image Representations for Time Series Classification with Deep Learning
Henrique Costa, Andre Ribeiro, Vinicius Souza

STformer: Spatio-Temporal Transformer for Multivariate Time Series Anomaly Detection

Zhengyu Li, Hongjie Zhang, Wei Zheng

Demand-Responsive Transport Dynamic Scheduling Optimization Based on Multi-Agent Reinforcement Learning under Mixed Demand

Jianrui Wang, Yi Li, Qiyu Sun, Yang Tang

TF-CL: Time Series Forecasting Based on Time-Frequency Domain Contrastive Learning

Wen Li, Yun Gu, Shouguo Du

One Process Spatiotemporal Learning of Transformers via Vcls Token for Multivariate Time Series Forecasting

Tao Cai, Haixiang Wu, Dejiao Niu, Xuwen Xia, Jie Jiang, Jingzehua Xu

Subgraph Collaborative Graph Contrastive Learning for Recommendation

Jie Ma, Jiwei Qin, Peichen Ji, Zhibin Yang, Donghao Zhang, Chaoqun Liu

16:00 – 16:30

Aula
Magna

Closing Session

20.09

Friday

Poster Area

Human-Centered Applications

A general-purpose material entity extraction method from large compound corpora using fine tuning of character features

Yangfan Zhou, Chaoyi Huang, Yingjie He, Shanshan Jia, Jianliu, Chunming Yang

An Enhanced Prompt-Based LLM Reasoning Scheme via Knowledge Graph-Integrated Collaboration

Yihao Li, Ru Zhang, Jianyi Liu

Tailored Finite Point Operator Networks for Interface Problems

Ye Li, Ting Du, Zhongyi Huang

BiosERC: Integrating Biography Speakers Supported by LLMs for ERC Tasks

Xue Jiaying, Phuong Nguyen, Matheny, Le-Minh Nguyen

A Three-Phases-LORA Finetuned Hybrid LLM Integrated with Strong Prior Module in the Education Context

Zhangquan Chen, Chunjiang Liu, Haobin Duan

Towards Minimal Edits in Automated Program Repair:

A Hybrid Framework Integrating Graph Neural Networks and Large Language Models

Zhenyu Xu, Victor S. Sheng

PLIClass: Weakly Supervised Text Classification with Iterative Training and Denoisy Inference

Xiantao Jeffery Xu, Wei Luo

GL-NER: Generation-aware Large Language Models for Few-shot Named Entity Recognition

Xingyu Zhu, Feifei Dai, Xiaoyan Gu, Bo Li, Meiyu Zhang, Weiping Wang

DEEPAM: Toward Deeper Attention Module in Residual Convolutional Neural Networks

Shanshan Zhong, Wushao Wen, Jinghui Qin, Zhongzhan Huang

Unveiling Vulnerabilities in Large Vision-Language Models: The SAVJ Jailbreak Approach

Gang Zhang, Xiaowei Fan, Jingquan Fang, Yanna Sun, Xiayang Shi, Chunya Lu

Lifelong Sentiment Classification Based on Adaptive Parameter Updating

Ze Zhang, Jiong Wang, KaiFeng Nie, XiaoYi Wang, Jie Liu

Carbon Price Forecasting with LLM-based Refinement and Transfer-Learning

Haiqi Jiang, Ying Ding, Rui Chen, Chenyou Fan

Revealing Unintentional Information Leakage in Low-Dimensional Facial Portrait Representations

Kathleen Anderson, Thomas Martinetz

Improved Multi-hop Reasoning through Sampling and Aggregating

MengYu Luo, Jianxia Chen, Qi Yan, Gaohang Jiang, Shi Dong, Liang Xiao, Zhongwei Huang

KELTP: Keyword-Enhanced Learned Token Pruning for Knowledge-Grouted Dialogue

Xinrui Wang

Reinforced Multi-Teacher Knowledge Distillation for Unsupervised Sentence Representation

Xintao Wang, Rize Jin, Shibo Qi

Anti-Hate Speech Framework: Leveraging Hedging Hyperbolic Learning

Hongyi Zhao, Zhiyuan Li, Jingyu Zhao, Daniel Tang, Fanliang Bu

A Simple Task-aware Contrastive Local Descriptor Selection Strategy for Few-shot Learning

Qian Qiao, Yu Xie, Shaoyao Huang, Fanzhang Li

Speech and Language, Theoretical and Methodological Contributions

Tengyue Deng, Jianguo Wei, Yang Jiahao, Minghao Guo, Wenjun Ke, Xiaokang Yang, Wenhuan Lu

Improve Shallow Decoder Based Transformer with Structured Expert Prediction

Zongbing Wang, Jingru Han

Semantics-Preserved Distortion for Personal Privacy Protection in Information Management

Jiajia Li, Lu Yang, Letian Peng, Shitou Zhang, Ping Wang, Zuchao Li, Hai Zhao

Day-ahead Scenario Analysis of Wind Power based on ICGAN and IDTW-Kmedoids

Yun Wu, Wenhan Zhao, Yongbin Zhao, Jieming Yang, Diwen Liu, Ning An, Yifan Huang

Developmental Predictive Coding Model for Early Infancy Mono- and Bilingual Vocal Continuous Learning

Xiaodan Chen, Alexandre Pitti, Mathias Quoy, Nancy F. Chen

A Generalizable Context-Aware Deep Learning Model for Abusive Language Detection

Mahsa Abazari Kia, Dorsa Samiee, Nasrin Pourmajar

Assessing the Emergent Symbolic Reasoning Abilities of Llama Large Language Models

Flavio Petruzzellis, Alberto Testolin, Alessandro Sperduti

ICANN2024

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All attendees, speakers, sponsors and volunteers at ICANN2024 are required to agree with the following code of conduct. Organisers will enforce this code throughout the event. We expect cooperation from all participants to help ensure a safe and inclusive environment for everybody.

Our conference is dedicated to providing a harassment-free conference experience for everyone, regardless of gender, gender identity and expression, age, sexual orientation, disability, physical appearance, body size, race, ethnicity, religion (or lack thereof), or technology choices. We do not tolerate harassment of conference participants in any form, including but not limited to verbal, written, visual, or physical. Sexual language and imagery are not appropriate for any conference venue, including talks, workshops, parties, Twitter/X and other online media. We recognise the inherent worth of every person by using respectful and inclusive language and avoiding any form of offensive or discriminatory remarks or jokes. All forms of communication should be appropriate for a professional audience including people of different backgrounds. Communication or behaviour that makes others uncomfortable should be ceased immediately.

ICANN2024 participants and sponsors violating these rules may be sanctioned or expelled from the conference without a refund at the discretion of the conference organisers. Harassment includes offensive verbal comments related to gender, gender identity and expression, age, sexual orientation, disability, physical appearance, body size, race, ethnicity, religion, technology choices, sexual images in public spaces, deliberate intimidation, stalking, following, harassing photography or recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention. Participants asked to stop any harassing behaviour are expected to comply immediately and completely.

If a participant engages in harassing behaviour, the conference organisers may take any action they deem appropriate, including warning the offender or expulsion from the conference with no refund, or if necessary, alerting the local law enforcement. If you are being harassed, notice that someone else is being harassed, or have any other concerns, please alert a member of the conference staff immediately. Conference staff can be easily identified as they will be wearing "STAFF" badges. If you prefer to alert the conference organisers to harassment via email, please contact info@icann2024.org.

Conference staff will be happy to help participants contact hotel/venue security or local law enforcement, provide escorts, or otherwise assist those experiencing harassment to feel safe for the duration of the conference. We value your attendance. We expect participants to follow these rules at all ICANN sessions and workshops and at ICANN-related social events.

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Practical Information

Venue

- USI West Campus (Campus Ovest), Via Buffi 13, 6900 Lugano
SUPSI-USI East Campus (Campus Est), Via la Santa 1, 6962 Lugano-Viganello
West Campus and East Campus are just a few minutes walking distance (across the river), see the conference map on the next page.

Registration Desk

- The registration desk is located at West Campus, in front of Aula Magna, which is our main lecture hall where keynotes and the opening session will take place. The registration desk will open at 7:30 on September 17, and half an hour before the start of the conference on all the other days.
On-site registration is not possible. If you wish to attend the ICANN and are not yet registered, please perform registration online at <https://e-nns.org/icann2024/> registration using a credit card, and provide us the PDF confirmation which you receive upon completed payment.

Items included in the registration fee

- Admission to all sessions from September 17th to 20th, programme, conference bag, lunches, coffee breaks, welcome reception. Registration fees do not include transport and accommodation.

Badge

- A name badge will be provided along with your conference documents, which you receive upon your registration at the registration desk. For the purposes of security and our internal regulations, wearing the badge is compulsory at all times during the conference. Only persons wearing an ICANN 2024 conference badge are entitled to attend meetings and take refreshments.

Emergency contact

- Alessia Gianinazzi +58 666 6666

WiFi

Free Wi-Fi networks are available on the campuses. You can connect to Eduroam Wi-Fi, using the credentials of your institution. For a short guide: <https://help.switch.ch/connect/connect-to-eduroam/>.
As an alternative, the USI- or SUPSI- GUEST networks are also available for free, upon registration. At this link you can find a short explanation of the activation procedure.

Insurance

- The organizers do not accept any responsibility for individual medical, travel or personal insurance. Attendees are strongly advised to have their own travel insurance policies to cover risks including (but not limited to) loss, cancellation, medical costs and injury. The ICANN 2024 organizers will not accept any responsibility for any delegate failing to take out adequate insurance.

Disclaimer

- The organizers are not liable for any loss or damage incurred by the conference delegates or by any other individuals accompanying them, both during the official activities as well as going to/from the conference. The organizers also cannot accept liability for injuries arising from accidents or other situations during or as a consequence of the conference attendance. Delegates are responsible for their own safety and belongings.

Emergency Calls

- 117 Police
118 Fire
144 Ambulance
1414 Swiss Rescue
112 European emergency number
140 Road emergency (very expensive if you are not a TCS member)

Taxis

- Taxis (Please note that taxis in Lugano charge a minimum fee of CHF 15,000 even if the distance is short)
Following a list of taxi companies.
- Nuovo Taxi Lugano +41919931616
Taxi Luganese +41919672424
Taxi 24 Lugano +41919300300
Taxi Service Lugano +41919442424
Taxi Stella +41919931515
Taxi ABA +41919722222

Electricity

- 230 volts, E type plug, Frequency: 50Hz
It is advisable to carry a universal adapter

Time difference and climate

- Lugano time zone: Central European summer time (GMT+2)
Summer Time period: +1hr, From Sunday 12th September to Sunday 28th October
The Alps cause climatic variations across the country. In the higher Alpine regions, temperatures tend to be low, while the lower land of the northern area has higher temperatures and warm summers. The temperature can go as low as -10 degrees during winter and as high as 25 degrees during summer.
For more information visit [MeteoSwiss](#)

Payments and exchange information

- Domestic currency: Swiss francs
ISO code: CHF
Payment methods: Credit/Debit cards, Swiss francs, Euros (change for Euros is provided in Swiss francs and is not generally advised)
ATMs: American express, Diners club, Maestro, MasterCard and VISA are widely accepted.
Traveler's checks: Pound sterling, US Dollar, Euro or Swiss Franc checks are accepted at airports, railway stations and banks.
To avoid additional exchange rate charges, visitors are advised to take travelers checks in Pounds Sterling, Euros and US Dollars.

How to reach us

By plane

- Zürich-Kloten International Airport (CH - about 220km):
www.zurich-airport.com
- Milano-Malpensa International Airport (I - about 80km):
www.milanomalpensa-airport.com

By car

- Exit to Lugano Nord, follow "City centre" and then "USI" signage.

By train

- From the train station take the bus number 6 (dir. Cornaredo, stop "Università" or "Campus universitario").

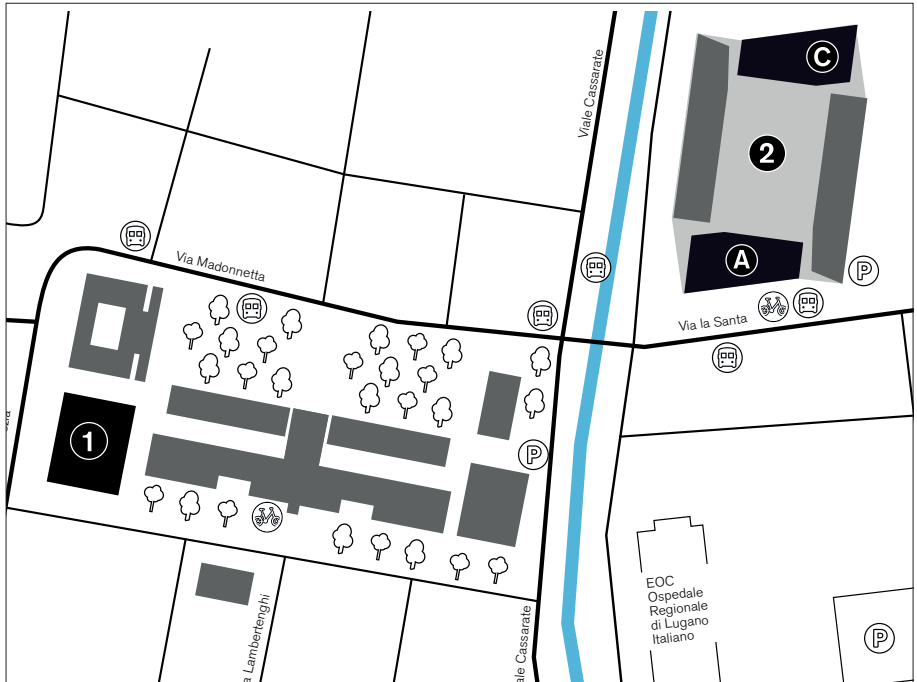
By bus

- Bus number 6 (dir. Cornaredo, stop "Università" or "Campus universitario").
- Bus number 5 (dir. Viganello, stop "Sacro Cuore", "Università" or "Campus universitario").

Public Transport App

- SBB App
www.sbb.ch/en
- TPL App
www.tplsa.ch

Map of Lugano Campus



1 West Campus

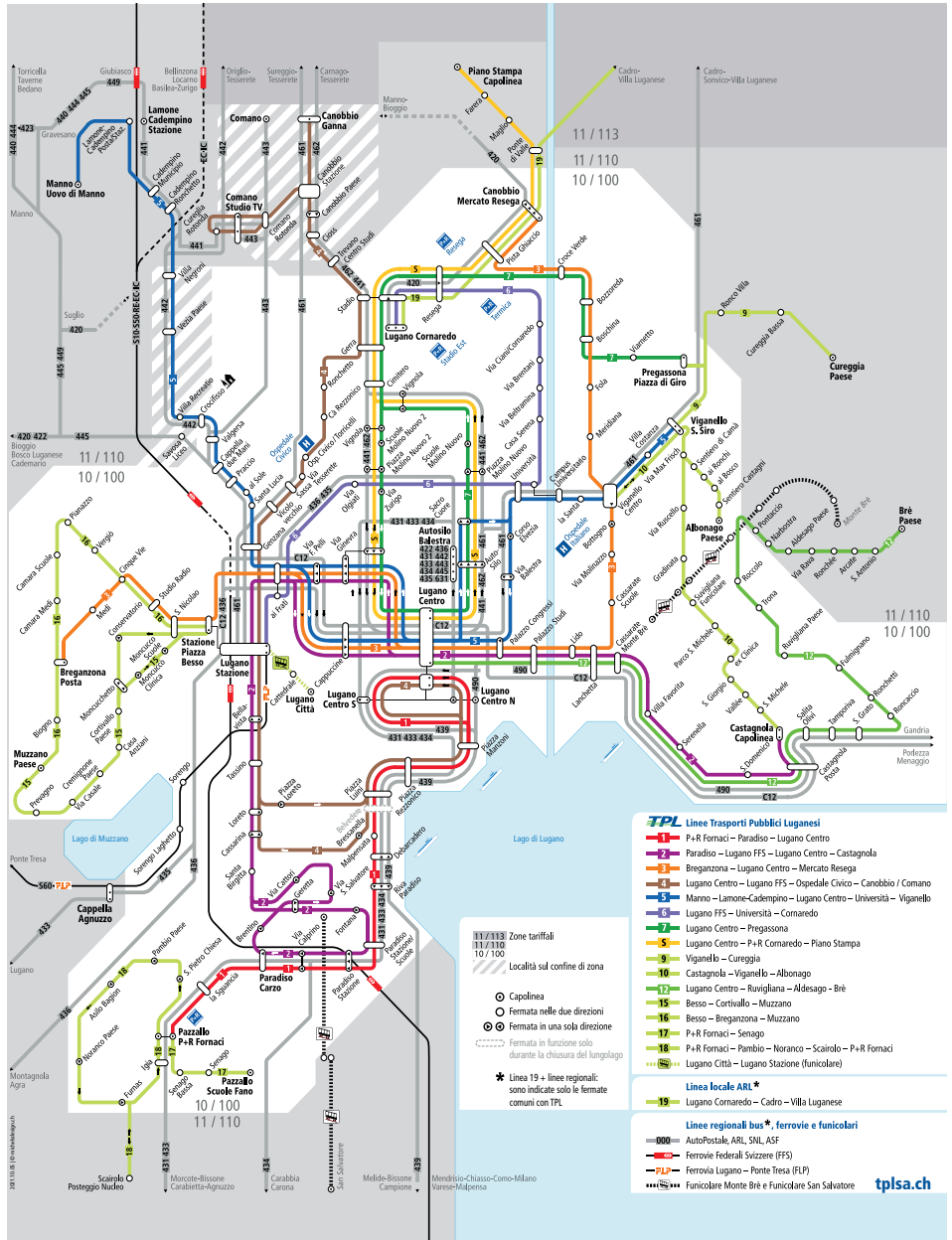
Aula Magna
Principal Lunch and Coffee break
Welcome reception and Badge distribution

2 East Campus

- A Aula Polivalente, floor 0
Coffee break
Foyer, floor 0
Library room, Floor 1
Small Coffee break (only 17-18.09)
- C Startup Garage, Floor 1

Maps of Public Transportation Lugano Area

www.arcobaleno.ch



TPL Linee Trasporti Pubblici Luganesi

- P+R Fornaci – Paradiso – Lugano Centro
- Paradiso – Lugano FFS – Lugano Centro – Castagnola
- Breganzona – Lugano Centro – Mercato Resega
- Lugano Centro – Lugano FFS – Ospedale Civico – Canobbio / Comano
- Manno – Lamone-Cadempino – Lugano Centro – Università – Vignanello
- Lugano FFS – Università – Comaredo
- Lugano Centro – Pregassona
- Lugano Centro – P+R Comaredo – Piano Stampa
- Vignanello – Cureggia
- Castagnola – Vignanello – Albonago
- Lugano Centro – Ruvigliana – Aldesago – Briè
- Bresso – Cartallina – Muzzano
- Bresso – Breganzona – Muzzano
- P+R Fornaci – Senago
- P+R Fornaci – Pambio – Noranco – Scarlino – P+R Fornaci
- Lugano Città – Lugano Stazione (funicolare)

Linea locale ARL*

- Lugano Comaredo – Cadro – Villa Luganese

Linee regionali bus*: ferrovie e funicolari

- 0000 = AutoPostale, ARL, SNL, ASF
- 0001 = Ferrovie Federali Svizzere (FFS)
- FLP = Ferrovia Lugano – Ponte Tresa (FLP)
- 0002 = Funicolare Monte Bre e Funicolare San Salvatore

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17th - 20th September 2024
Lugano

33rd International Conference on Artificial Neural Networks

