

Detailed Program of

32nd ICANN 2023

event

26th - 29th September 2023

Hybrid @ Web and
Astoria Capsis Hotel at Heraklion city
Crete, Greece

Note that all times at the program are in Athens - EEST (Eastern European Summer Time) Zone

Tuesday 26/9/2023

9:00–18:00 On-site Registration

9:30-9:45 Welcome Session

9:45-10:45

Session 1, Keynote speech: “Challenges of Incremental Learning”

Hybrid Session, Room 1 – Keynote 1

Chair: Professor Stefan Wermter

Keynote Speaker: Professor Barbara Hammer

Professor at Bielefeld University, CITEC Centre of Excellence, Germany

11:15 - 13:00

Session 2, Main Event: ML 1 (Machine Learning)

[Hybrid Session, Room 1](#)

Chair: Professor Igor Farkaš

Exploring the role of feedback inhibition for the robustness against corruptions on event-based data

René Larisch, Lucien Berger, Fred Hamker

Extracting feature space for synchronizing behavior in an interaction scene using unannotated data

Yuya Okadome, Yutaka Nakamura

Properties of the weighted and robust implicitly weighted correlation coefficients

Jan Kalina, Petra Vidnerová

Semilayer-Wise Partial Quantization without Accuracy Degradation or Back Propagation

Tomoya Matsuda, Kengo Matsumoto, Atsuki Inoue, Hiroshi Kawaguchi, Yasufumi Sakai

UDCGN: Uncertainty-Driven Cross-Guided Network for Depth Completion of Transparent Objects

Yutao Hu, Zheng Wang, Jiacheng Chen, Yutong Qian, Wanliang Wang

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11:15 - 13:00

Session 3, Main Event: ExABS (Extended abstracts)

[Hybrid Session, Room 2](#)

Chair: Professor Lazaros Iliadis

Decorelated Weight Initialization by Backpropagation

Alexander Kovalenko, Pavel Kordík

Exploring individuality in human EEG using reservoir computing

Hiromichi Suetani, Keiichi Kitajo

Learning efficient backprojections across cortical hierarchies in real time

Kevin Max, Laura Kriener, Thomas Nowotny, Garibaldi Pineda Garcia, Walter Senn, Mihai A. Petrovici

Neural self-organization for muscle-driven robots

Claudius Gros, Elias Fischer, Bulcsu Sandor

Novel Synthetic Data Tool for Data-Driven Cardboard Box Localization

Peter Kravár, Lukáš Gajdošech, Martin Madaras

Reinforcement Learning with Memory based Automatic Chunking for Complex Skill Acquisition

Shweta Singh, Sudaman Katti

Retinotopy improves the categorisation and localisation of visual objects in CNNs

Jean-Nicolas JEREMIE, Emmanuel DAUCE, Laurent Perrinet

11:15 - 13:00

Session 4, Main Event: AD (Anomaly Detection)

[Remote Session, Room 3](#)

Chair: Professor Fangfang Yuan

Anomaly Detection in Directed Dynamic Graphs via RDGCN and LSTAN

Mark Junjie Li, Zukang Gao, Jun Li, Xianyu Bao, Meiting Li, Gen Zhao

Anomaly-Based Insider Threat Detection via Hierarchical Information Fusion

Enzhi Wang, Qicheng Li, Shiwan Zhao, Xue Han

CSEDesc: CyberSecurity Event Detection with Event Description

Gaosheng Wang, Peipei Liu, Jintao Huang, Shuaizong Si, Hongsong Zhu, Limin Sun

GanNeXt: A New Convolutional GAN for Anomaly Detection

Bowei Pu, Shiyong Lan, Wenwu Wang, Caiying Yang, Wei Pan, Hongyu Yang, Wei Ma

Malicious Domain Detection Based on Self-supervised HGNNs with Contrastive Learning

Zhiping Li, Fangfang Yuan, Cong Cao, Majing Su, Yuhai Lu, Yanbing Liu

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11:15 - 13:00

Session 5, Main Event: ITA / Rec 1 (Image - Text Analysis / Recognition)

[Remote Session, Room 4](#)

Chair: Professor Andreas Menychtas

Classification-based and Lightweight Networks For Fast Image Super Resolution

Xueliang Zhong, Jianping Luo

Combining Edge-guided Attention and Sparse-connected U-Net for Detection of Image Splicing

Lin Wan, Lichao Su, Huan Luo, Xiaoyan Li

End-to-end Remote Sensing Change Detection of Unregistered Bi-temporal Images for Natural Disasters

Guiqin Zhao, Lianlei Shan, Weiqiang Wang

Ga-RFR: Recurrent Feature Reasoning with gated convolution for Chinese Inscriptions Image Inpainting

Long Zhao, Yuhao Lou, Zonglong Yuan, Xiangjun Dong, Xiaoqiang Ren, Hongjiao Guan

Lightweight Human Pose Estimation Based On Densely Guided Self-Knowledge Distillation

Mingyue Wu, Zhongqiu Zhao, Jiajun Li, Weidong Tian

Visible-Infrared Person Re-Identification via Modality Augmentation and Center Constraints

Qiang Chen, Guoqiang Xiao, Jiahao Wu

11:15 - 13:00

Session 6, Main Event: Ler 1 (Learning)

[Remote Session, Room 5](#)

Chair: Mr. Ziqiang Li

Contrastive Learning for Sleep Staging based on Inter Subject Correlation

Tongxu Zhang, Bei Wang

Dynamic Memory-based Continual Learning with Generating and Screening

Siyang Tao, Jinyang Huang, Xiang Zhang, Xiao Sun, Yu Gu

Heterogeneous Federated Learning Based on Graph Hypernetwork

Zhengyi Xu, Liu Yang, Shiqiao Gu

Neighborhood-oriented Decentralized Learning Communication in Multi-Agent System

Hao Dai, Jiashu Wu, André Brinkmann, Yang Wang

NN-Denoising: A Low-Noise Distantly Supervised Document-Level Relation Extraction Scheme using Natural Language Inference and Negative Sampling

Mengting Pan, Ye Wang, Zhiyun Chen

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Ternary Data, Triangle Decoding, Three Tasks, a Multitask Learning Speech Translation Model
Linlin Zhang, Boxing Chen, shaolin zhu, Luo Si

14:00 - 15:45

Session 7, Main Event: ML 2 (Machine Learning)

[Hybrid Session, Room 1](#)

Chair: Mr. Michail Chatzianastasis

Attractor dynamics drive flexible timing in birdsong

Fjola Hyseni, Nicolas Rougier, Arthur Leblois

Input Layer Binarization with Bit-Plane Encoding

Lorenzo Vorabbi, Davide Maltoni, Stefano Santi

Investigation of Information Processing Mechanisms in the Human Brain during Reading Tanka Poetry

Anna Sato, Junichi Chikazoe, Shotaro Funai, Daichi Mochihashi, Yutaka Shikano, Masayuki Asahara, Satoshi Iso, Ichiro Kobayashi

MEA-TransUNet: a Multiple External Attention Network for Multi-Organ Segmentation

Xianpeng Cao, Junfeng Yao, Qingqi Hong, Rongzhou Zhou

Multi-Task Learning for Mongolian Morphological Analysis

Na Liu, Ren Qingdaoerji, Xiangdong Su, Yatu Ji, dengbala ao, Guiping Liu

Pure Physics-Informed Echo State Network of ODE Solution Replicator

Dong Keun Oh

14:00 - 15:45

Session 8, Main Event: NN / S(G)NN 1 (Neural Networks / SNN / SGNN Modeling)

[Hybrid Session, Room 2](#)

Chair: Dr. Kevin Max

Causal Interpretability and Uncertainty Estimation in Mixture Density Networks

Gokul Swamy, Arunita Das, Shobhit Niranjana

Generalized Thermostatistics and the Nonequilibrium Landscape Description of Neural Network Dynamics

Roseli S. Wedemann, Angel R. Plastino

Information-Theoretically Secure Neural Network Training with Flexible Deployment

Hengcheng Zhou

Population Coding Can Greatly Improve Performance of Neural Networks: A Comparison

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Marius Jahrens, Hans-Oliver Hansen, Rebecca Köhler, Thomas Martinetz

QuasiNet: a neural network with
trainable product layers

Kristína Malinovská, Slavomír Holenda, Ľudovít Malinovský

Regularization for Hybrid N-Bit Weight Quantization of Neural Networks on Ultra-Low Power
Microcontrollers

Minh Tri Lê, Etienne de Foras, Julyan Arbel

14:00 - 15:45

Session 9, Main Event: ML 3 (Machine Learning)

[Remote Session, Room 3](#)

Chair: Professor Papadopoulos Vasileios

Few-shot Relational Triple Extraction based on Evaluation of Token-Level Semantic Similarity

Shuai Jiang, Jiazhe Zhu, Lianghua He

Knowledge Distillation with Feature Enhancement Mask

Yue Xiao, Longye Wang, Wentao Li, Xiaoli Zeng

LaneMP: Robust Lane Attention Detection based on Mutual Perception of Keypoints

siyuan peng, wangshu yao, yifan xue

Multi-grained Aspect Fusion for Review Response Generation

Yun Yuan, Chen Gong, Dexin Kong, Nan Yu, Guohong Fu

Solving Math Word Problem with External Knowledge and Entailment Loss

rizhongtian lu, yongmei tan, shaozhang niu, yunze lin

Spatio-temporal Attention Model with Prior Knowledge for Solar Wind Speed Prediction

Puguang Cai, Liu Yang, Yanru Sun

14:00 - 15:45

Session 10, Main Event: ITA / Rec 2 (Image - Text Analysis / Recognition)

[Remote Session, Room 4](#)

Chair: Dr. Kristina Rebrova

Image Captioning for Nantong Blue Calico Through Stacked Local-Global Channel Attention
Network

Chenyi Guo, Li Zhang, Xiang Yu

Ms-AMPool: Down-Sampling Method for Dense Prediction Tasks

Shukai Yang, Xiaoqian Zhang, Yufeng Chen, Lei Pu

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Multi-frame Tilt-angle Face Recognition Using Fusion Re-ranking

Wenqin Song, Zhen Han, Kangli Zeng, Zhongyuan Wang

PSR-Net A Dual-Branch Pyramid Semantic Reasoning Network for Segmentation of Remote Sensing Images

Lijun Wang, Bicao Li, Wang Bei, Chunlei Li, Huang Jie, Song Mengxing

Style Expansion without Forgetting for Handwritten Character Recognition

Jie Ruan, Zhenyu Weng, Jian Zhang, Yuqing Wang, Longhui Yu, Qiankun Gao, Yuesheng Zhu

Water Conservancy Remote Sensing Image Classification Based on Target-Scene Deep Semantic Enhancement

Xin Wang, Guangyue Zuo, Ke Li, Li Li, Aiye Shi

14:00 - 15:45

Session 11, Main Event: ML 4 (Machine Learning)

[Remote Session, Room 5](#)

Chair: Dr. Yongxin Yang

F-E Fusion:A Fast Detection Method of Moving UAV Based on Frame and Event Flow

Xun Xiao, Zhong Wan, Yuan Li, Shasha Guo, Junbo Tie, Lei Wang

Membership-Grade Based Prototype Rectification for Fine-Grained Few-Shot Classification

Ning Sa, Qi RunDong, Jiang Yong

PCB Component Rotation Detection Based on Polarity Identifier Attention

Haoming Ma, Hongjie Zhang

PlantDet: A benchmark for Plant Detection in the Three-Rivers-Source Region

Huanhuan Li, Yu-an Zhang, Xuechao Zou, Zhiyong Li, Jiangcai Zhaba, Guomei Li, Lamao Yongga

PO-DARTS: Post-Optimizing the Architectures Searched by Differentiable Architecture Search Algorithms

Debei Hao, Songwei Pei

ShadowGAN for Line Drawings Shadow Generation

Huanhuan Xue, Chunmeng Kang

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16:15 - 18:30

Session 12, Main Event: ML 5 (Machine Learning)

[Hybrid Session, Room 1](#)

Chair: Professor Doina Logofatou

Can Machine Learning Support Improvement in Effective Nutrition of patients in Critical Care Units?

Elias Pimenidis, Kamran Soomro, Antonios Papaleonidas, Anastasios Panagiotis Psathas

Diversifying non-dissipative Reservoir Computing dynamics

Claudio Gallicchio

Global-to-contextual Shared Semantic Learning for Fine-grained Vision-language Alignment

Min Zheng, Chunpeng Wu, Jiaqi Qin, Weiwei Liu, Ming Chen, Long Lin, Fei Zhou

Gradient-based Learning of Finite Automata

Juan Fernandez del Pozo Romero, Luis Lago

Impact Analysis of Climate Change on Floods in an Indian Region using Machine Learning

Sarthak Vage, Tanu Gupta, Sudip Roy

Predicting high vs low mother-baby synchrony with GRU-based ensemble models

Daniel Stamate, Riya Haran, Karolina Rutkowska, Pradyumna Davuloori, Evelyne

Mercure, Caspar Addyman, Mark Tomlinson

Use of Machine Learning Algorithms to Analyze the Digit Recognizer Problem in an Effective Manner

Usama Shakoar, Sheikh Sharfuddin Mim, Doina Logofatu

16:15 - 18:30

Session 13, Main Event: CL / PR 1 (Classification / Pattern Recognition)

[Hybrid Session, Room 2](#)

Chair: Professor Roseli Wedemann

A Hybrid Model Based on Samples Difficulty for Imbalanced Data Classification

Ao Shan, Yeh-Ching Chung

A Policy for Early Sequence Classification

Alexander Cao, Jean Utke, Diego Klabjan

Architecturing Binarized Neural Networks for Traffic Sign Recognition

Andreea Postovan, Madalina Erascu

Discrete Denoising Diffusion Approach to Integer Factorization

Karlis Freivalds, Emīls Ozoliņš, Guntis Bārzdriņš

Fusing Hand and Body Skeletons for Human Action Recognition in Assembly

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Dustin Aganian, Mona Köhler, Benedict Stephan, Markus Eisenbach, Horst-Michael Gross
SkinDistilViT: Lightweight Vision Transformer for Skin Lesion Classification
Vlad-Constantin Lungu-Stan, Dumitru-Clementin Cercel, Florin Pop

16:15 - 18:30

Session 14, Main Event: ITA / Rec 3 (Image - Text Analysis / Recognition)

[Remote Session, Room 3](#)

Chair: Dr. Brigitte Quenet

A Multi-Scale Method for Cell Segmentation in Fluorescence Microscopy Images

Fang Yating, Baojiang Zhong

Diffusion-Adapter: Text Guided Image Manipulation with Frozen Diffusion Models

Rongting Wei, Chunxiao Fan, Yuexin Wu

E-Patcher: A Patch-based Efficient Network for Fast Whole Slide Images Segmentation

Xiaoshuang Huang, Shuo Wang, Jinze Huang, Yaoguang Wei, Xinhua Dai, Yang Zhao, Dong An, Xiang Fang

Multi-scale field distillation for multi-task semantic segmentation

Aimei Dong, Sidi Liu

Rethinking Feature Context in Learning Image-guided Depth Completion

Yikang Ding, Pengzhi Li, Dihe Huang, Zhiheng Li

Single image dehazing network based on serial feature attention

Yan Lu, Miao Liao, Shuanhu Di, Yuqian Zhao

Unsupervised Shape Enhancement and Factorization Machine Network for 3D Face Reconstruction

Leyang Yang, Boyang Zhang, Jianchang Gong, Xueming Wang, Xiangzheng Li, Kehua Ma

16:15 - 18:30

Session 15, Main Event: ML 6 (Machine Learning)

[Remote Session, Room 4](#)

Chair: Dr. Eliska Kloberdanz

GII: a Unified Approach to Representation Learning in Open Set Recognition with Novel Category Discovery

Jingyun Jia, Philip Chan

Lightweight Reference-Less Summary Quality Evaluation via Key Feature Extraction

Shunan Zang, Chuang Zhang, Jingwen Lin, Xiaojun Chen, Shuai Zhang

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PSML: Prototype-Based OSSL Framework for Multi-Information Mining

YiYong Xiao, GuiMei Ying, YongCan Fu

Spatiotemporal model with attention mechanism for ENSO Predictions

Wei Fang, Yu Sha, Xiaozhi Zhang

SPM-Diffusion for Temperature Prediction

Wei Fang, Zhong Yuan, Qiongying Xue

S-SOLVER: Numerically stable adaptive step size solver for neural ODEs

Eliska Klobardanz, Wei Le

TCS-LipNet: Temporal & Channel & Spatial Attention-based Lip Reading Network

Huanjie Chen, Wenjuan Li, Zhigang Cheng, Xiubo Liang, Qifei Zhang

16:15 - 18:30

Session 16, Main Event: ML - MV (Machine Learning - Machine Vision)

[Remote Session, Room 5](#)

Chair: Dr. Laurent Perrinet

Adaptive Dehazing YOLO for Object Detection

Kaiwen Zhang, Xuefeng Yan, Yongzheng Wang, Juncheng Qi

An Efficient Approximation Method Based on Enhanced Physics-informed Neural Networks for Solving Localized Wave Solutions of PDEs

Yanan Guo, Xiaoqun Cao, Kecheng Peng, Wei Dong, Wenlong Tian, Mengge Zhou

Connectionist Temporal Sequence Decoding: M-ary Hopfield Neural-network with Multi-limit cycle Formulation

VANDANA M. LADWANI, V Ramasubramanian

Explaining, Evaluating and Enhancing Neural Networks' Learned Representations

Marco Bertolini, Djork-Arné Clevert, Floriane Montanari

Feature Sniffer: A Stealthy Inference Attacks Framework on Split Learning

Sida Luo, Fangchao Yu, Lina Wang, Bo Zeng, Zhi Pang, Kai Zhao

Gradient Adjusted and Weight Rectified Mean Teacher for Source-free Object Detection

Jiawen Peng, Jiaxin Chen, Yanxu Hu, Rong Pan, Andy J. Ma

Real-time Adaptive Physical Sensor Processing with SNN Hardware

Jordi Madrenas, bernardo vallejo-mancero, Josep Angel Oltra-Oltra, Mireya Zapata, Jordi Cosp-Vilella, Robert Calatayud, Satoshi Moriya, Shigeo Sato

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19:30 - 21:00*

Complimentary Welcome Reception

Welcome reception will take place at the **360° Roof Top Bar – Restaurant** of the conference venue (Astoria Capsis Hotel).

A finger / canape food selection together with a variety of local spirits / wines will be available.

Welcome reception is complimentary for all registered ICANN 2023 participants while a ticket will be required for not registered and / or accompanying persons.

More info will be available at the conference registration desk.

* Exact times will be announced at the registration desk

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Wednesday 27/9/2023

11:00–19:00 On-site Registration

9:00 - 11:15

Session 17, Main Event: BIO (Biomedical)

[Remote Session, Room 3](#)

Chair: Professor Konstantinos Delimpasis

An Echo State Network-Based Method for Identity Recognition with Continuous Blood Pressure Data

Ziqiang Li, Kantaro Fujiwara, Gouhei Tanaka

Analysis of Augmentations in Contrastive Learning for Parkinson's Disease Diagnosis

Shuangyi Wang, Tianren Zhou, Zhaoyan Shen, Zhiping Jia

Clinical pixel feature recalibration module for ophthalmic image classification

JiLu Zhao, XiaoQing Zhang, Xiao Wu, ZhiXuan Zhang, Tong Zhang, Heng Li, Yan Hu, Jiang Liu

CopiFilter: An Auxiliary Module Adapts Pre-trained Transformers for Medical Dialogue Summarization

Jiaxin Duan, Junfei Liu

Molecular Substructure-based Double-Central Drug-Drug Interaction prediction

Baitai Cheng, Jing Peng, Yi Zhang, Yang Liu

Prediction of cancer drug sensitivity based on GBDT-RF algorithm

Yating Li, Jin Gou, Zongwen Fan

Tooth segmentation from Cone-Beam CT Images through boundary refinement

Yiheng Xu, Mingkun Zhang, Sibao Huang, Dongyu Zhang

9:00 - 11:15

Session 18, Main Event: CL / PR 2 (Classification / Pattern Recognition)

[Remote Session, Room 4](#)

Chair: Dr. Shuyu Miao

A Cross-Modal View to Utilize Label Semantics for Enhancing Student Network in Multi-Label Classification

Yuzhuo Qin, Hengwei Liu, Xiaodong Gu

Distinguishing the correctness of knowledge makes knowledge transfer better

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Chao Cheng, Bin Fang, Jing Yang
Enhancing Cross-lingual Few-shot Named Entity Recognition by Prompt-guiding
Yige Wang, Yucheng Huang, Tieliang Gong, Chen Li
FFTRL: A Sparse Online Kernel Classification Algorithm for Large Scale Data
Changzhi Su, Li Zhang, Lei Zhao
Gaze Behavior Patterns for Early Drowsiness Detection
Hongfei Gao, Ruimin Hu, Zijun Huang
HaarStyle: Revision Style Transfer Based on Multiple Resolutions
Hongwei Chen, Mengjie Li, Yupeng Lei
VDCNet: A Vulnerability Detection and Classification System in Cross-Project Scenarios
Dongping Zhang, Hequn Xian, Jiyang Chen, Zhiguo Xu

9:00 - 11:15

Session 19, Main Event: DTL / CNN 1 (Deep Learning / Transfer Learning / CNN)

[Remote Session, Room 5](#)

Chair: Professor Ausra Saudargiene

A Depth-guided Attention Strategy for Crowd Counting
Hao Chen, Zhan Li, Bir Bhanu, Dongping Lu, Xuming Han
Deep Video Compression Based on 3D Convolution Artifacts Removal and Attention
Compression Module
Zhichen Liu, Jianping Luo
Empirical Study on the Effect of Residual Networks on the Expressiveness of Linear Regions
Xuan Qi, Yi Wei, Xue Mei, Ryad Chellali, Shipin Yang
Heavy-Tailed Regularization of Weight Matrices in Deep Neural Networks
Xuanzhe Xiao, Zeng Li, Chuanlong Xie, Fengwei Zhou
LSA3D: Lightweight Separate Asynchronous 3D Convolutional Neural Network for Gait
Recognition
Jianguo Chen, Zhongyuan Wang, Kangli Zeng, Jinsheng Xiao, Zhen Han
RA-Net: A Deep Learning Approach based on Residual Structure and Attention Mechanism for
Image Copy-move Forgery Detection
Kaiqi Zhao, Xiaochen Yuan, Zhiyao Xie, Guoheng Huang, Li Feng
Taper Residual Dense Network for Audio Super-Resolution
Junmei Yang, Haosen Lin, Yiming Peng

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9:00 - 11:15

Session 20, Main Event: GR / CL 1 (Graphs / Graph NNS / Clustering)

[Remote Session, Room 6](#)

Chair: Professor Yongqing Sun

A Balanced Relation Prediction Framework for Scene Graph Generation

Kai Xu, Lichun Wang, Shuang Li, Huiyong Zhang, Baocai Yin

A Graph Neural Network-based Smart Contract Vulnerability Detection Method With Artificial Rule

Ziyue Wei, Weining Zheng, Xiaohong Su, Wenxin Tao, Tiantian Wang

BIG-FG: A Bi-directional Interaction Graph Framework with Filter Gate Mechanism for Chinese Spoken Language Understanding

Wentao Zhang, Bi Zeng, Pengfei Wei, Huiting Hu

Event association analysis using graph rules

Pengyue Jiang, Wenjun Wang, Xueli Liu, Lifei Sun, Bowen Dong

Negative Edge Prediction for Attributed Graph Clustering

Zhenhao Zhang, Yibo Hu, Bin Wu

Structure-Enhanced Graph Neural ODE Network for Temporal Link Prediction

Jinlin Hou, Xuan Guo, Jiye Liu, Jie Li, Lin Pan, Wenjun Wang

Target-oriented Sentiment Classification with Sequential Cross-modal Semantic Graph

Yufeng Huang, Zhuo Chen, Jiaoyan Chen, Jeff Z. Pan, Zhen Yao, Wen Zhang

11:15 - 13:00

Session 21, Main Event: GR / CL 2 (Graphs / Graph NNS / Clustering)

[Hybrid Session, Room 1](#)

Chair: Professor Alessio Micheli

A Graph Convolutional Siamese Network for Assessment and Recognition Physical Rehabilitation Exercises

Chengxian Li, Xichong Ling, Siyu Xia

An untrained neural model for fast and accurate graph classification

Nicolò Navarin, Luca Pasa, Claudio Gallicchio, Alessandro Sperduti

Multi-Granularity Contrastive Learning for Graph with Hierarchical Pooling

Peishuo Liu, Cangqi Zhou, Xiao Liu, Jing Zhang, Qianmu Li

One-Class Intrusion Detection with Dynamic Graphs

Aleksei Liuliakov, Alexander Schulz, Luca Hermes, Barbara Hammer

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Supervised Attention Using Homophily in Graph Neural Networks

Michail Chatzianastasis, Giannis Nikolentzos, Michalis Vazirgiannis

11:15 - 13:00

Session 22, Workshop: ASNN Workshop (ASNN 2023 - Recent Advances in Spiking Neural Networks Special Session)

[Hybrid Session, Room 2](#)

Chair: Professor Sebastian Otte & Professor Sander Bohte

Accurate detection of spiking motifs in multi-unit raster plots

Laurent Perrinet

Context-dependent computations in spiking neural networks with apical modulation

Romain Ferrand, Maximilian Baronig, Thomas Limbacher, Robert Legenstein

Efficient Uncertainty Estimation in Spiking Neural Networks via MC-dropout

Tao Sun, Bojian Yin, Sander Bohte

QMTS: Fixed-point quantization for multiple-timescale spiking neural networks

Sherif Eissa, Federico Corradi, Floran de Putter, Sander Stuijk, Henk Corporaal

Self-Organizing Temporally Coded Representation Learning

Adrien Fois, Bernard Girau

11:15 - 13:00

Session 23, Main Event: ITA / Rec 4 (Image - Text Analysis / Recognition)

[Remote Session, Room 3](#)

Chair: Professor Basabdatta Sen Bhattacharya

Adaptive interaction-based multi-view 3D object reconstruction

jun Miao, yilin Zheng, jie Yan, lei Li, jun Chu

CLASPPNet: A Cross-Layer Multi-Class Lane Semantic Segmentation Model Fused with Lane Detection Module

Chao Huang, Zhiguang Wang, Yongnian Fan, Kai Liu, Qiang Lu

Contour-augmented Concept Prediction Network for image captioning

Ting Wang, Weidong Chen, Jingyu Li, Yixing Peng, Zhendong Mao

Interpretable Image Recognition by Screening Class-specific and Class-shared Prototypes

xiaomeng li, Jiaqi Wang, Liping Jing

Pie-UNet: A novel Parallel Interaction Encoder for Medical Image Segmentation

Youtao Jiang, Xiaoqian Zhang, Yufeng Chen, Shukai Yang, Feng Sun

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TransVQ-VAE: Generating Diverse Images using Hierarchical Representation Learning
Chuan Jin, Anqi Zheng, Zhaoying Wu, Changqing Tong

11:15 - 13:00

Session 24, Main Event: Ler 2 (Learning)

[Remote Session, Room 4](#)

Chair: Professor Chung-Ming Own

Addressing delays in Reinforcement Learning via Delayed Adversarial Imitation Learning
Minzhi Xie, Bo Xia, yalou yu, Xueqian Wang, Yongzhe Chang

Enhancing Text2SQL Generation with Syntactic Information and Multi-Task Learning
haochen li, minghua nuo

Graph Federated Learning Based on the Decentralized Framework
Peilin Liu, Yanni Tang, Mingyue Zhang, Wu Chen

PTSTEP: Prompt Tuning for Semantic Typing of Event Processes
Wenhao zhu, Yongxiu Xu, Hongbo Xu, Minghao Tang, Dongwei Zhu

SR-IDS: A Novel Network Intrusion Detection System Based on Self-taught Learning and Representation Learning
Qinghao Wang, Geyang Yang, Lina Wang, Jie Fu, Xiaowen Liu

Task-Aware Adversarial Feature Perturbation for Cross-Domain Few-Shot Learning
Yixiao Ma, Fanzhang Li

11:15 - 13:00

Session 25, Main Event: ML 7 (Machine Learning)

[Remote Session, Room 5](#)

Chair: Professor Ping Wei

A Document-Level Relation Extraction Framework with Dynamic Pruning
Hanyue Zhang, Li Li, Jun Shen

Adaptive Embedding and Distribution Re-Margin for Long-tail Recognition
Yulin Su, Boan Chen, Ziming Feng, Junchi Yan

Adaptive Propagation Network Based on Multi-Scale Information Fusion
Qianli Ma, Chenzhi Wang, Zheng Fan, Yuhua Qian

Higher Target Relevance Parallel Machine Translation with Low-Frequency Word Enhancement
Shuo Sun, hongxu hou, yisong wang

LE-MVSNet: Lightweight Efficient Multi-view Stereo Network

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Changfei Kong, Ziyi Zhang, Jiafa Mao, Sixian Chan, Weigou Sheng

The progressive detectors and discriminative feature descriptors combining global and local information

Siyuan Liang, Baolu Gao, Bingjie Zhang, Xiaoyang Li, Hao Wang

11:15 - 13:00

Session 26, Main Event: ML 8 (Machine Learning)

[Remote Session, Room 6](#)

Chair: Dr. Kamran Soomro

2RDA: Representation and Relation Distillation with Data Augmentation

Xurui Yang, Jian Ye

Hierarchical Contrastive Learning for CSI-based Fingerprint Localization

Xiangxu Meng, Wei Li, Zheng Zhao, Zhihan Liu, Huiqiang Wang

Multiple Object Tracking based on Variable GloU-Embedding Matrix and Kalman Filter Compensation

Kelei Sun, Qiufen Wen, Huaping Zhou, Kaitao Xiong, Jie Zhang, Qi Zhao, Jingwen Wu, Meiguang Li

Non-Outlier Pseudo-Labeling for Short Text Clustering

Fangquan Zhou, Shenglin Gui

PairEE: A Novel Pairing-Scoring Approach for Better Overlapping Event Extraction

Zetai Jiang, Fang Kong

Robustness to Variability and Asymmetry of In-memory On-chip Training

Rohit Vartak, Vivek Saraswat, Udayan Ganguly

14:00-15:00

Session 27, Keynote speech: “Reliable AI: From Mathematical Foundations to Quantum Computing”

Hybrid Session, Room 1 – Keynote 2

Chair: Professor Angelo Cangelosi

Keynote Speaker: Professor Gitta Kutyniok

Bavarian AI Chair for Mathematical Foundations of Artificial Intelligence, LMU Munich
Adjunct Professor for Machine Learning, University of Tromsø, Norway

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15:00 - 16:45

Session 28, Main Event: SVR / MG 1 (Speech - Video Recognition / Music Generation)

[Hybrid Session, Room 1](#)

Chair: Professor Raoui Younès

A Unified Video Semantics Extraction and Noise Object Suppression Network for Video Saliency Detection

Zhenshan Tan, Xiaodong Gu

Bring the Noise: Introducing Noise Robustness to Pretrained Automatic Speech Recognition

Patrick Eickhoff, Matthias Möller, Theresa Pekarek Rosin, Johannes Twiefel, Stefan Wermter

Cross-Camera Prototype Learning for Intra-Camera Supervised Person Re-Identification

Bingyu Duan, Wanqian Zhang, Dayan Wu, Lin Wang, Bo Li, Weiping Wang

ECDet: A Real-time Vehicle Detection Network for CPU-only Devices

Fei Gao, Zhiwen Wang, Jianwen Shao, Xinyang Dong, Libo Weng

Replay to Remember: Continual Layer-Specific Fine-tuning for German Speech Recognition

Theresa Pekarek Rosin, Stefan Wermter

Space-Time Video Super-Resolution Based on Long-Term Time Dependence

Xinyi Huang, Tong Xue, Yiwen Hu, Hui Lan, Jinshan Sun

15:00 - 16:45

Session 29, Workshop: NRR Workshop (NRR 2023 - Neurorobotics Workshop)

[Hybrid Session, Room 2](#)

Chair: Dr. Matthias Kerzel

A System-Level Brain Model for Enactive Haptic Perception in a Humanoid Robot

Kristin Osk Ingvarsdottir, Birger Johansson, Trond A. Tjøstheim, Christian Balkenius

Clarifying the Half Full or Half Empty Question: Multimodal Container Classification

Josua Spisak, Matthias Kerzel, Stefan Wermter

CycleIK: Neuro-inspired Inverse Kinematics

Jan-Gerrit Habekost, Erik Strahl, Philipp Allgeuer, Matthias Kerzel, Stefan Wermter

Robot at the mirror: learning to imitate via associating self-supervised models

Andrej Lúčny, Kristína Malinová, Igor Farkaš

Safe Reinforcement Learning in a Simulated Robotic Arm

Luka Kovac, Igor Farkas

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15:00 - 16:45

Session 30, Main Event: TED 1 (Transformer Encoder / Decoder)

[Remote Session, Room 3](#)

Chair: Mrs. Karine Ravienna

A Novel Encoder and Label Assignment for Instance Segmentation

Huiyong Zhang, Lichun Wang, Shuang Li, Kai Xu, Baocai Yin

A Transformer-Based Method for UAV-View Geo-Localization

Ping Wang, ZHEYU YANG, Xueyang Chen, Huahu Xu

FPTN: Fast Pure Transformer Network for Traffic Flow Forecasting

Junhao Zhang, Juncheng Jin, Junjie Tang, Zehui Qu

Hierarchical Classification for Symmetrized VI Trajectory Based on Lightweight Swin Transformer

Wuqing Yu, Linfeng Yang, Zixian He

Imbalanced Conditional Conv-Transformer For Mathematical Expression Recognition

Shuaijian Ji, Zhaokun Zhou, Yuqing Wang, Baishan Duan, Zhenyu Weng, Liang Xu, Yuesheng Zhu

Self-adapted Positional Encoding in the Transformer Encoder for Named Entity Recognition

Kehan Huangliang, Xinyang Li, Teng Yin, Bo Peng, HaiXian Zhang

15:00 - 16:45

Session 31, Main Event: TED 2 (Transformer Encoder / Decoder)

[Remote Session, Room 4](#)

Chair: Professor Anne Magaly de Paula Canuto

Cross-graph Transformer Network for Temporal Sentence Grounding

Jiahui Shang, Ping Wei, Nanning Zheng

EGCN: A Node Classification Model based on Transformer and Spatial Feature Attention GCN for Dynamic Graph

Yunqi Cao, Haopeng Chen, Jinteng Ruan

Knowledge Graph Transformer for Sequential Recommendation

Zhu Jinghua, Cui Yanchang, Zhang Zhuohao, Xi Heran

MFT: Multi-scale Fusion Transformer for Infrared and Visible Image Fusion

Chen-Ming Zhang, Chengbo Yuan, Yong Luo, Xin Zhou

Trans-Cycle: Unpaired Image-to-Image Translation Network by Transformer

Kai Tian, Mengze Pan, Zongqing Lu, Qingmin Liao

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15:00 - 16:45

Session 32, Main Event: REC (Recommendation Systems)

[Remote Session, Room 5](#)

Chair: Professor Zhichao Lian

Aggregate Distillation For Top-K Recommender System

Hao Shen, Tengfei Chu, Yulou Yang, Ming Yang

Candidate-Aware Dynamic Representation for News Recommendation

Liancheng Xu, Xiaoxiang Wang, Lei Guo, Jinyu Zhang, Xiaoqi Wu, Xinhua Wang

Category Enhanced Dual View Contrastive Learning for Session-based Recommendation

Xingfan Shi, Yuliang Shi, Jihu Wang, Hongfeng Sun, Hui Liu, Xinjun Wang, Zhiyong Chen

Incremental Recommendation Algorithm based on the Influence Propagation Model

Siqi Wu, Jianming Lv, Chen Liu, Hongmin Cai

Scenic Spot Recommendation Method Integrating Knowledge Graph And Distance Cost

Yue Shen, Xiaoxu Zhu

15:00 - 16:45

Session 33, Main Event: GA 1 (Generative / Adversarial)

[Remote Session, Room 6](#)

Chair: Professor Samee U. Khan

A Multi-Task Instruction with Chain of Thought Prompting Generative Framework for Few-Shot Named Entity Recognition

Wenjie Xu, Jianquan Ouyang

Generating Distinctive Facial Images from Natural Language Descriptions via Spatial Map Fusion

Qi Guo, Xiaodong Gu

Improved attention mechanism and adversarial training for respiratory infectious disease text named entity recognition

Junhong Liu, Wenxue Wei, Yukun Zhang, Lei Liang

Multi-Convolution and Adaptive-stride Based Transferable Adversarial Attacks

Shuo Wang, Qingfu Huang, Zhichao Lian

Multi-Source Open-Set Image Classification based on Deep Adversarial Domain Adaptation

Haitao Zhang, Xinran Liu, Qilong Han, Dan Lu

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17:15 - 19:00

Session 34, Main Event: ITA / Rec 5 (Image - Text Analysis / Recognition)

[Hybrid Session, Room 1](#)

Chair: Professor Hanno Gottschalk

CLN: Complementary Learning Network For 3D Face Reconstruction And Alignment

Kangbo Wu, Xitie Zhang, Xing Zheng, Suping Wu, Yongrong Cao, Zhiyuan Zhou, Kehua Ma

DWA: Differential Wavelet Amplifier for Image Super-Resolution

Brian Moser, Stanislav Frolov, Federico Raue, Sebastian Palacio, Andreas Dengel

Few-shot NeRF-based View Synthesis for Viewpoint-biased Camera Pose Estimation

Sota Ito, Hiroaki Aizawa, Kunihiro Kato

Generalisation Approach for Banknote Authentication by Mobile Devices Trained on Incomplete Samples

Bariş Gün Sürmeli, Eugen Gillich, Helene Dörksen

Neural Field Conditioning Strategies for 2D Semantic Segmentation

Martin Gromniak, Sven Magg, Stefan Wermter

17:15 - 19:30

Session 35, Main Event: ITA / Rec 6 (Image - Text Analysis / Recognition)

[Remote Session, Room 3](#)

Chair: Professor Jaakko Peltonen

A Detail Geometry Learning Network for High-Fidelity Face Reconstruction

Kehua Ma, Xitie Zhang, Suping Wu, Boyang Zhang, Leyang Yang, Zhixiang Yuan

ASP Loss: Adaptive Sample-Level Prioritizing Loss for Mass Segmentation on Whole Mammography Images

Parvaneh Aliniya, Mircea Nicolescu, Monica Nicolescu, George Bebis

Extraction Method of Rotated Objects from High-resolution Remote Sensing Images

Tao Sun, Kun Liu, Jiechuan Shi

Image Caption with Prior Knowledge Graph and Heterogeneous Attention

Junjie Wang, Wenfeng Huang

Joint Edge-guided and Spectral Transformation Network for Self-Supervised X-ray Image Restoration

Shasha Huang, Wenbin Zou, Hongxia Gao, Weipeng Yang, Hongsheng Chen, Shicheng Niu, Tian Qi, Jianliang Ma

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Semantic and Frequency Representation Mining for Face Manipulation Detection

Jihao Cao, Jinsheng Deng, Xiaoqing Yin, Zhichao Zhang, Hui Chen

UG-Net: Unsupervised-Guided Network for Biomedical Image Segmentation and Classification

Zhiqiang Li, Xiaogen Zhou, Tong Tong

17:15 - 19:30

Session 36, Main Event: CL - BI 1 (Classification - Biomedical)

[Remote Session, Room 4](#)

Chair: Dr. Shuaifeng Zhi

A Study of Data-driven Methods for Adaptive Forecasting of COVID-19 Cases

Charithea Stylianides, Kleanthis Malialis, Panayiotis Kolios

Boosting Few-Shot Classification with Lie Group Contrastive Learning

Feihong He, Fanzhang Li

Diversified Contrastive Learning For Few-Shot Classification

Guangtong Lu, Fanzhang Li

K-Fold Cross-Valuation for Machine Learning Using Shapley Value

Qiangqian g He, Mujie Zhang, Jie Zhang, Shang Yang, Chongjun Wang

Symmetry-Aware Siamese Network: Exploiting Pathological Asymmetry for Chest X-Ray Analysis

Helen Schneider, Elif Yildiz, David Biesner, Yannik Layer, Benjamin Wulff, Sebastian Nowak, Maike Theis, Alois Sprinkart, Ulrike Attenberger, Rafet Sifa

The Optimization and Parallelization of Two-Dimensional Zigzag Scanning on the Matrix

Ling Li, Yaobin Wang, Lijuan Peng, Yuming Feng, Ning Liu, Guangwei Li, Xiaolin Jia

Transformer Based Prototype Learning for Weakly-Supervised Histopathology Tissue Semantic Segmentation

Jinwen She, Yanxu Hu, Andy J. Ma

17:15 - 19:30

Session 37, Main Event: TGA L (Transfer - Generative- Adversarial Learning)

[Remote Session, Room 5](#)

Chair: Dr. Eliska Kloberdanz

Block-level Stiffness Analysis of Residual Networks

Eliska Kloberdanz, Wei Le

DaCon: Multi-Domain Text Classification Using Domain Adversarial Contrastive Learning

Yingjun Dai, Ahmed El-Roby

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FBPFormer: Dynamic Convolutional Transformer for Global-Local-Contextual Facial Beauty Prediction

Qipeng Liu, Luojun Lin, Zhifeng Shen, Yuanlong Yu

GC-GAN: Photo Cartoonization using Guided Cartoon Generative Adversarial Network

Jiachen zhang, Huantong Hou, Jingjing Chen, Donglong Chen

Long-distance Pipeline Intrusion Warning Based on Environment Embedding From Distributed Optical Fiber Sensing

Chengyuan Zhu, Yanyun Pu, Zhuoling Lyu, Jiren Qian, Kaixiang Yang

Multi-relation Representation Learning based Deep Network for Patent Classification

Yuan Meng, Xuhao Pan, Yue Wang

Patches Channel Attention For Human Sitting Posture Recognition

Yongfang Ye, shoudong shi, Tianxiang Zhao, Kedi Qiu, Ting Lan

17:15 - 19:30

Session 38, Main Event: GM / TL / IC 2 (Graph Machine / Transfer Learning - Image Classification)

[Remote Session, Room 6](#)

Chair: Dr. Paolo Masulli

A Lightweight Multi-Scale Large Kernel Attention Hierarchical Network for Single Image Deraining

Xin Wang, chen Lyu

Efficient Question Answering Based on Language Models and Knowledge Graphs

Li Fengying, Huang Hongfei, Dong Rongsheng

GNN Graph Classification Method to Discover Climate Change Patterns

Alex Romanova

In silico study of single synapse dynamics using a three-state kinetic model

Swapna Sasi, Basabhatta Sen Bhattacharya

LTNI-FGML: Federated Graph Machine Learning on Long-Tailed and Non-IID Data via Logit Calibration

Dongqi Yan, Jinyan Wang, Qingyi Huang, Juanjuan Huang, Xianxian Li

Medical Image Segmentation and Saliency Detection through a Novel Color Contextual Extractor

xiaogen zhou, Zhiqiang Li, Tong Tong

ReDualSVG: Refined Scalable Vector Graphics Generation

Shannan Yan

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Thursday 28/9/2023

11:00–18:30 On-site Registration

9:00 - 11:15

Session 39, Main Event: CL / PR 3 (Classification / Pattern Recognition)

[Remote Session, Room 3](#)

Chair: Professor Jiyi Li

A classification performance evaluation measure considering data separability

Lingyan Xue, Xinyu Zhang, Weidong Jiang, Kai Huo, Qinmu Shen

A New Dataset for Hair Follicle Recognition and Classification in Robot-Aided Hair Transplantation

Xinyu Gu, Xiaoxu Zhang, Hongbin Fang, Wenyu Wu, Jinran Lin, Kai Yang

An Ensemble Scheme Based on the Optimization of TOPSIS and AdaBoost for In-class Teaching Quality Evaluation

Junqi Guo, Aohua Song, Ludi Bai, Ziyun Zhao, Siyu Zheng

Context Enhancement Methodology for action recognition in still images

Jiarong He, Wei Wu, Yuxing Li

FeatEMD: Better Patch Sampling and Distance Metric for Few-Shot Image Classification

Shisheng Deng, Dongping Liao, Xitong Gao, Juanjuan Zhao, Kejiang Ye

Sparse Block DETR: Precise and Speedy End-to-End Detector for PCB Defect Detection

JiXuan Hong, JingJing Xie, ChenHui Yang

SWP:A Sliding Window Prompt for Emotion Recognition in Conversation

Hanlin Zhao, Yan Chen, Jiajian Xie, Kangshun Li

9:00 - 11:15

Session 40, Main Event: DTL / CNN 2 (Deep Learning / Transfer Learning / CNN)

[Remote Session, Room 4](#)

Chair: Dr. Athanasios Kallipolitis

A Noise Convolution Network for Tampering Detection

Zhiyao Xie, Xiaochen Yuan, Chan-Tong Lam, Guoheng Huang

Attention-based Feature Interaction Deep Factorization Machine for CTR Prediction

Peilin Yang, Yongliang Han, Yingyuan Xiao, Wenguang Zheng

CKNA: Kernel Hyperparameters Optimization Method for Group-wise CNNs

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Rongjin Huang, Shifeng Qu, Hai Yang, Zhanquan Wang
Conditional Convolution Residual Network for Efficient Super-Resolution
Yunsheng Guo, Jinyang Huang, Xiang Zhang, Xiao Sun, Yu Gu
Depthwise Convolution with Channel Mixer: Rethinking MLP in MetaFormer for Faster and More Accurate Vehicle Detection
Zhi-wei Lu, Li Kang, Jianjun Huang
Multi-label Image Deep Hashing with Hybrid Loss of Global Center and Local Alignment
Ye Liu, Yan Pan, Jian Yin
Siamese Network based on MLP and Multi-head Cross Attention for Visual Object Tracking
Piaoyang Li, Shiyong Lan, Shipeng Sun, Wenwu Wang, Yongyang Gao, Yongyu Yang, Guangyu Yu

9:00 - 11:15

Session 41, Main Event: GR / CL 3 (Graphs / Graph NNS / Clustering)

[Remote Session, Room 5](#)

Chair: Professor Papadopoulos Vasileios

Adaptive Randomized Graph Neural Network based on Markov Diffusion Kernel
Qianli Ma, Zheng Fan, Chenzhi Wang, Yuhua Qian
Co-RGCN: A Bi-path GCN-based Co-Regression model for Multi-intent Detection and Slot Filling
Qingpeng Wen, Bi Zeng, Pengfei Wei
Fake Review Detection via Heterogeneous Graph Attention Network
Zijun Ren, Xianguo Zhang, Shuai Zhang, Chao Yang
Heterogeneous Graph Neural Network Knowledge Graph Completion Model Based on Improved Attention Mechanism
JunKang Shi, Ming Li, Jing Zhao
Hierarchical Diachronic Embedding of Knowledge Graph combined with Fragmentary Information Filtering
Kai Liu, Zhiguang Wang, Yixuan Yang, Chao Huang, Min Niu, Qiang Lu
Label Enhanced Graph Attention Network for Truth Inference
Ningjing Zhao, Xingrui Zhuo, Gongqing Wu, Zan Zhang
LogE-Net: Logic evolution network for temporal knowledge graph forecasting
Yuxuan Liu, Yijun Mo, Zhengyu Chen, Huiyu Liu

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9:00 - 11:15

Session 42, Main Event: ITA / Rec 7 (Image - Text Analysis / Recognition)

[Remote Session, Room 6](#)

Chair: Mr. Agorakis Mpompotas

Cascaded Network-based Single-View Bird 3D Reconstruction

su pei, Qijun Zhao, Fan Pan, Fei Gao

Cross Classroom Domain Adaptive Object Detector for Student's Heads

Chunhui Li, Haoze Yang, Kunyao Lan, Liping Shen

Dynamic Facial Expression Recognition in Unconstrained Real-World Scenarios Leveraging Dempster-Shafer Evidence Theory

Zhenyu Liu, Tianyi wang, Shuwang Zhou, Minglei Shu

MedNet: A Dual-Copy Mechanism for Medical Report Generation from Images

Peng Nie, Xinbo Liu

Single Image Super-Resolution with Sequential Multi-axis Blocked Attention

Bincheng Yang, Gangshan Wu

SS-Net: 3D Spatial-Spectral Network for Cerebrovascular Segmentation in TOF-MRA

Chaozhi Yang, Yachuan Li, Yun Bai, Qian Xiao, Zongmin Li, Hongyi Li, Hua Li

STAN: Spatio-Temporal Alignment Network for No-Reference Video Quality Assessment

Zhengyi Yang, Yuanjie Dang, Jianjun Xiang, Peng Chen

11:15 - 13:00

Session 43, Main Event: TS / CA (Time Series / Classification - Autoregression)

[Hybrid Session, Room 1](#)

Chair: Professor Sebastian Otte

Generating Sparse Counterfactual Explanations For Multivariate Time Series

Jana Lang, Martin A. Giese, Winfried Ilg, Sebastian Otte

Knowledge Forcing: Fusing Knowledge-Driven Approaches with LSTM for Time Series Forecasting

Muhammad Ali Chattha, Muhammad Imran Malik, Andreas Dengel, Sheraz Afmed

MIPCE: Generating Multiple Patches Counterfactual-changing Explanations for Time Series Classification

Hiroiyuki Okumura, Tomoharu Nagao

Temporal Attention Signatures for Interpretable Time-Series Prediction

Alexander Katrampas, Vangelis Metsis

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Time-Series Prediction of Calcium Carbonate Concentration in Flue Gas Desulfurization Equipment by Optimized Echo State Network

Shunsuke Takagaki, Koki Tateishi, Hiroyasu Ando

WAG-NAT: Window Attention and Generator Based Non-Autoregressive Transformer for Time Series Forecasting

Yibin Chen, Yawen Li, Ailan Xu, Qiang Sun, Xiaomin Chen, Chen Xu

11:15 - 13:00

Session 44, Workshop: ESRA in DNN Workshop (ESRA in DNN 2023)

[Hybrid Session, Room 2](#)

Chair: Professor Vera Kurkova

The Boundaries of Verifiable Accuracy, Robustness, and Generalisation in Deep Learning

Alexander Bastounis, Alexander Gorban, Anders Hansen, Desmond Higham, Danil Prokhorov, Ivan Tyukin, Oliver Sutton, Qinghua Zhou

Approximation of Binary-Valued Functions by Networks of Finite VC Dimension

Vera Kurkova

Relative intrinsic dimensionality is intrinsic to learning

Oliver Sutton, Qinghua Zhou, Alexander Gorban, Ivan Tyukin

Color-Dependent Prediction Stability of Popular CNN Image Classification Architectures

Laurent Mertens, Elahe' Yargholi, Jan Van den Stock, Hans Op de Beeck, Joost Vennekens

Componentwise Adversarial Attacks

Lucas Beerens, Desmond John Higham

Improving Neural Network Verification Efficiency through Perturbation Refinement

Minal Suresh Patil, Kary Främling

11:15 - 13:00

Session 45, Main Event: ML 9 (Machine Learning)

[Remote Session, Room 3](#)

Chair: Mr. Nikitas-Rigas Kalogeropoulos

Boost Predominant Instrument Recognition Performance with MagiaSearch and MagiaClassifier

Hao ZHOU, Zhen LI, Shusong XING, Zujun GU, Binhui WANG

Global-Temporal Enhancement for Sign Language Recognition

Xiaofei Qin, Hui Wang, Changxiang He, Xuedian Zhang

Landslide Surface Displacement Prediction Based on VSXC-LSTM Algorithm

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Menglin Kong, Ruichen Li, Fan Liu, Xingquan Li, Juan Cheng, Muzhou Hou, Cong Cao
Semantic Information Mining and Fusion Method for Bot Detection

Lijia Liang, Xinzhong Wang, Gongshen Liu
Spatially Invariant and Frequency-Aware CycleGAN for Unsupervised MR-to-CT Synthesis

Shuang Song, Jun Zhang, Wenbin Hu, Yong Luo, Xin Zhou
Vulnerability Analysis of Continuous Prompts for Pre-trained Language Models
Zhicheng Li, Yundi Shi, Xuan Sheng, Changchun Yin, Lu Zhou, Piji Li

11:15 - 13:00

Session 46, Main Event: ML10 (Machine Learning)

[Remote Session, Room 4](#)

Chair: Professor Kotsiantis Sotirios

A Global Feature Fusion Network for Lettuce Growth Trait Detection

Zhengxian Wu, Jiaxuan Wu, Yiming Xue, Juan Wen, Ping Zhong

An Efficient Approach for Improving the Recall of Rough Abstract Retrieval in Scientific Claim Verification

Zhiwei Zhang, Jiyi Li, Fumiyo Fukumoto

An Explainable Feature Selection Approach for Fair Machine Learning

Zhi Yang, Ziming Wang, Changwu Huang, Xin Yao

Anchor link prediction based on trusted anchor re-identification

Dongwei Zhu, Yongxiu Xu, Lei Zhang, Minghao Tang, Wenhao Zhu, Hongbo Xu

Cross-Domain Transformer with Adaptive Thresholding for Domain Adaptive Semantic Segmentation

Quansheng Liu, Lei Wang, Yu Jun, Fang Gao

TableSF: A Structural Bias Framework for Table-to-Text Generation

Di Liu, Weihua Wang, Feilong Bao, Guanglai Gao

11:15 - 13:00

Session 47, Main Event: NN / S(G)NN 2 (Neural Networks / SNN / SGNN Modeling)

[Remote Session, Room 5](#)

Chair: Professor KONGFang

Gated Variable Selection Neural Network for Multimodal Sleep Quality Assessment

Yue Chen, Takashi Morita, Tsukasa Kimura, Takafumi Kato, Masayuki Numao, Ken-ichi Fukui

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Guiding the Comparison of Neural Network Local Robustness: An Empirical Study

Hao Bu, Meng Sun

Pan-Sharpening with Global Multi-Scale Context Network

Lu Lin, Chen Yin, Zhenkun Gao

Razor SNN: Efficient Spiking Neural Network with Temporal Embeddings

Yuan Zhang, Jian Cao, Jue Chen, Wenyu Sun, Yuan Wang

Traffic Flow Prediction Based on Multi-Type Characteristic Hybrid Graph Neural Network

Yuhang Wang, Hui Gao

Whisker Analysis Framework for Unrestricted Mice with Neural Networks

Zhijie Tan, Shengwei Meng, Yujia Tan, Yiqun Wu, Yi Li, Tong Mo, Weiping Li

11:15 - 13:00

Session 48, Main Event: ITA / Rec 8 (Image - Text Analysis / Recognition)

[Remote Session, Room 6](#)

Chair: Professor Elias Pimenidis

A Data Augmentation based ViT for Fine-Grained Visual Classification

Shuozhi Yuan, Wenming Guo, Fang Han

An Improved Lightweight YOLOv5 for Remote Sensing Images

Shihao Hou, Linwei Fan, Fan Zhang, Bingchen Liu

An Improved YOLOv5 with Structural Reparameterization for Surface Defect Detection

Yixuan Han, Liying Zheng

Contrastive Knowledge Amalgamation for Unsupervised Image Classification

Shangde Gao, Yichao Fu, Ke Liu, Yuqiang Han

Improving Image Captioning with Feature Filtering and Injection

Guo Menghao, Chen Qiaohong, Fang Xian, Bao Jia, Xiang Shenxiang

Prior-SSL: A Thickness Distribution Prior and Uncertainty Guided Semi-supervised Learning

Method for Choroidal Segmentation in OCT Images

Huihong Zhang, Xiaoqing Zhang, Yinlin Zhang, Risa Higashita, Jiang Liu

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14:00-15:00

Session 49, Keynote speech: “Developmental Robotics for Language Learning, Trust and Theory of Mind”

Hybrid Session, Room 1 – Keynote 3

Chair: Professor Ilias Maglogiannis

Keynote Speaker: Professor Angelo Cangelosi

Professor at University of Manchester and Alan Turing Institute, UK

15:00 - 16:45

Session 50, Main Event: LAD (Learning - Anomaly Detection)

[Hybrid Session, Room 1](#)

Chair: Professor Daniel Stamate

CIPER: Combining Invariant and Equivariant Representations Using Contrastive and Predictive Learning

Xia Xu, Jochen Triesch

Contrastive Learning and the Emergence of Attributes Associations

Daniel N. Nissani (Nissensohn)

Find Important Training Dataset by Observing the Training Sequence Similarity

zhengchang liu, Hang Diao, Fan Zhang, Samee U.Khan

Gradient-Boosted Based Structured and Unstructured Learning

Andrea Trevino Gavito, Diego Klabjan, Jean Utke

pFedLHNs: Personalized Federated Learning via Local Hypernetworks

Liping Yi, Xiaorong Shi, Nan Wang, Ziyue Xu, Gang Wang, Xiaoguang Liu

Time Series Anomaly Detection with Reconstruction-Based State-Space Models

Fan Wang, Keli Wang, Boyu Yao

15:00 - 16:45

Session 51, Main Event: TTL / CL (Transformer/Transfer Learning - Classification)

[Hybrid Session, Room 2](#)

Chair: Professor Lazaros Iliadis

A Transformer-based Framework for Biomedical Information Retrieval Systems

Karl Hall, Chrisina Jayne, Victor Chang

LorenTzE: Temporal Knowledge Graph Embedding based on Lorentz Transformation

Ningyuan Li, Haihong E, Li Shi, Xueyuan Lin, Meina Song, Yuhao Li

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MLF-DET: Multi-Level Fusion for Cross-Modal 3D Object Detection

Zewei Lin, Yanqing Shen, Sanping Zhou, Shitao Chen, Nanning Zheng

NeuralODE-based Latent Trajectories into AutoEncoder Architecture for Surrogate Modelling of Parametrized High-dimensional Dynamical Systems

Michele Lazzara, Max Chevalier, Corentin Lapeyre, Olivier Teste

SHGAE: Social Hypergraph AutoEncoder for Friendship Inference

Li yujie, Chen Yan, Qi Tianliang, Tian Feng, Wang Qianying, Wu Yaqiang

15:00 - 16:45

Session 52, Main Event: TED 3 (Transformer Encoder / Decoder)

[Remote Session, Room 3](#)

Chair: Dr. Kleanthis Malialis

Enhance Representational Differentiation Step By Step: A Two-Stage Encoder-Decoder Network for Implicit Discourse Relation Classification

Yuxiang Lu, Yu Hong, Zujun Dou, Guodong Zhou

GenTC: Generative Transformer via Contrastive Learning for Receipt Information Extraction

Xinrui Deng, Zheng Huang, Kefan Ma, Kai Chen, Jie Guo, Weidong Qiu

ICDT: Maintaining Interaction Consistency for Deformable Transformer with Multi-scale Features in HOI Detection

Bingnan Guo, Sheng Liu, Feng Zhang, Junhao Chen, Ruixiang Chen

RRecT: Chinese Text Recognition with Radical-enhanced Recognition Transformer

Xinrui Deng, Zheng Huang, Kefan Ma, Kai Chen, Jie Guo, Weidong qiu

S2R: Exploring a Double-Win Transformer-Based Framework for Ideal and Blind Super-Resolution

Minghao She, Wendong Mao, Huihong Shi, Zhongfeng Wang

Temporal Deformable Transformer For Action Localization

Haoying Wang, Ping Wei, Meiqin Liu, Nanning Zheng

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15:00 - 16:45

Session 53, Main Event: GA 2 (Generative / Adversarial)

[Remote Session, Room 4](#)

Chair: Mr. Grigorios Gasteratos

ANODE-GAN: Incomplete Time Series Imputation by Augmented Neural ODE-based Generative Adversarial Networks

Zhuoqing Chang, Shubo Liu, Zhaohui Cai, Guoqing Tu

Boosting Adversarial Transferability through Intermediate Feature

chenghai he, Xiaoqian Li, Xiaohang Zhang, Kai Zhang, Hailing Li, Gang Xiong, Xuan Li

Generative Event Extraction via Internal Knowledge-enhanced Prompt Learning

Hetian Song, Qingmeng Zhu, Zhipeng Yu, Jian Liang, Hao He

Towards Robustness of Large Language Models on Text-to-SQL Task: An Adversarial and Cross-Domain Investigation

Weixu Zhang, Yu Wang, Ming Fan

TransNoise: Transferable Universal Adversarial Noise for Adversarial Attack

Yier Wei, Haichang Gao, Yufei Wang, Huan Liu, Yipeng Gao, Sainan Luo, Qianwen Guo

15:00 - 16:45

Session 54, Main Event: DTL / CNN 3 (Deep Learning / Transfer Learning / CNN)

[Remote Session, Room 5](#)

Chair: Professor Christian Balkenius

Deep-learning Based Three Channel Defocused Projection Profilometry

Tianbo Liu

Enhancing the Interpretability of Deep Multi-Agent Reinforcement Learning via Neural Logic Reasoning

Bokai Ji, Guangxia Li, Gang Xiao

MADNet: EEG-based Depression Detection using a Deep Convolution Neural Network Framework with Multi-dimensional Attention

Shuyu Chen, Yangzuyi Yu, jiahui pan

MCASleepNet: Multimodal channel attention-based deep neural network for automatic sleep staging

Yangzuyi Yu, Shuyu Chen, jiahui pan

Robustness of Biologically-inspired filter-based ConvNet to Signal Perturbation

Akhilesh Adithya, Basabdatta Sen, Bhattacharya, Michael Hopkins

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15:00 - 16:45

Session 55, Main Event: OD / TL 1 (Object Detection / Transfer Learning)

[Remote Session, Room 6](#)

Chair: Professor Panayiotis Kolios

GaitFusion: Exploring the fusion of silhouettes and optical flow for gait recognition

Yuxiang Feng, Jiabin Yuan, Lili Fan

IMAM: Incorporating multiple attention mechanisms for 3D Object Detection from Point Cloud

Jing Zhou, Han Wu

Object Detection in Foggy Images with Transmission Map Guidance

Zhihao Luo, Jin Xie, Jing Nie

ROFusion: Efficient Object Detection using Hybrid Point-wise Radar-Optical Fusion

*Liu Liu, Shuaifeng Zhi, Zhenhua Du, Li Liu, Xinyu Zhang, Kai Huo, and
Weidong Jiang*

SDGC-YOLOv5: A more accurate model for small object detection

Zhiming Lu, Ying Chen, Shaojie Li, Ming Ma

X-shape Feature Expansion Network for Salient Object Detection in Optical Remote Sensing Images

Lisu Huang, Minghui Sun, Yanhua Liang, Guihe Qin

16:45 - 19:00

Session 56, Main Event: RRL (Reinforcement / Recurrent Learning)

[Remote Session, Room 3](#)

Chair: Professor Alexander Kovalenko

A Personalized Federated Multi-Task Learning Scheme for Encrypted Traffic Classification

Xueyu Guan, Run Du, Xiaohan Wang, Haipeng Qu

An Evaluation of Self-Supervised Learning for Portfolio Diversification

Yongxin Yang, Timothy Hospedales

Enhancing P300 Detection in Brain-Computer Interfaces with Interpretable Post-Processing of Recurrent Neural Networks

Christian Oliva, Vinicio Changoluisa, Francisco B. Rodríguez, Luis F. Lago-Fernández

GFedKRL: Graph Federated Knowledge Re-Learning for Effective Molecular Property Prediction via Privacy Protection

Yangyou Ning, Jinyan Wang, De Li, Dongqi Yan, Xianxian Li

Learning to Resolve Conflicts in Multi-Task Learning

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Tang Min, Jin Zhe, Zou Lixin, Liang Shiuan-Ni
Multi-fusion Recurrent Network for Argument Pair Extraction
Naixu He, Qingfeng Chen, Qian Yu, Zongzhao Han

16:45 - 19:00

Session 57, Main Event: ML / TM (Machine Learning / Text Mining)

[Remote Session, Room 4](#)

Chair: Professor Samee U. Khan

Adaptive Segmentation Network for Scene Text Detection

Guiqin Zhao

Higher Education Programming Competencies: A Novel Dataset

Natalie Kiesler, Benedikt Pfülb

Label-description Enhanced Network for Few-shot Named Entity Recognition

Hui Gao, Xin yue Zhang

Label-guided Graphormer for Hierarchy Text Classification

Song Li, Jingjing Huo, Wenqiang Xu, Maozong Zheng, Kezun Zhang, Hong Chen, Xuan Lin

Limited Information Opponent Modeling

Yongliang Lv, Yuanqiang Yu, Yan Zheng, Jianye Hao, Yongming Wen, Yue Yu

Mutual Information Dropout: Mutual Information Can Be All You Need

Zi Song, Shan Ma

The Dynamic Selection of Combination Methods in Classifier Ensembles by Region of Competence

Jesaías Silva, Anne Canuto, Araken Santos

16:45 - 19:00

Session 58, Main Event: DL / Rec / TS (Deep Learning/Recommendation Systems/ Time Series)

[Remote Session, Room 5](#)

Chair: Mrs. Eleni Vlachou

Adaptive Reservoir Neural Gas: An Effective Clustering Algorithm for Addressing Concept Drift in Real-Time Data Streams

Konstantinos Demertzis, Lazaros Iliadis, Antonios Papaleonidas

An Intelligent Dynamic Selection System Based on Nearest Temporal Windows for Time Series Forecasting

Gabriel M. Matos, Paulo S. G. de Mattos Neto

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Electronic Medical Record Recommendation System Based on Deep Embedding Learning with
Named Entity Recognition

Yuqian Zheng, Xu Yan, Xin Cao, Chunhui Ai

Graph Neural Network-Based Representation Learning for Medical Time Series

Zhuzi Zheng, ChangChun Guo, Jianyong Chen, Jianqiang Li

Hierarchical Vision and Language Transformer for Efficient Visual Dialog

Qiangqiang He, Mujie Zhang, Jie Zhang, Shang Yang, and Chongjun Wang

Friday 29/9/2023

11:00–17:30 On-site Registration

9:00 - 11:15

Session 59, Main Event: DTL / CNN 4 (Deep Learning / Transfer Learning / CNN)

[Remote Session, Room 3](#)

Chair: Professor Papadopoulos Vasileios

A Deep Learning based Method for Generating Holographic Acoustic Fields from Phased Transducer Arrays

Shuai Wang, Xuewei Wang, Fucheng You, Han Xiao

Cross Attention with Deep Local Features for Few-shot Image Classification

Tengfei Chu, Hao Shen, Jing Lv, Ming Yang

DLUIO: Detecting Useful Investor Opinions by Deep Learning

Yi Xiang, Yujie Ding, Wenting Tu

Dynamic obstacle avoidance for unmanned aerial vehicle using dynamic vision sensor

Xiangyu Zhang, Junbo Tie, Jianfeng Li, Yu Hu, Shifeng Liu, Xinpeng Li, Ziteng Li, Xintong Yu, Jingyue Zhao, Zhong Wan, Guangda Zhang, Lei Wang

Evidential Robust Deep Learning for Noisy Text2text Question Classification

Haoran Wang, Jiyao Wang, Yuqiu Chen, Zehua Peng, Zuping Zhang

Rethinking CNN Architectures in Transformer Detectors

Mengze Pan, Kai Tian, Qingmin Liao

Self-Supervised Graph Convolution for Video Moment Retrieval

Xiwen Hu, Guolong Wang, Shimin Shan, Yu Liu, Jiangquan Li

9:00 - 11:15

Session 60, Main Event: GR / CL 4 (Graphs / Graph NNS / Clustering)

[Remote Session, Room 4](#)

Chair: Dr. Jinghua Zhu

Adaptive Weighted Multi-View Evidential Clustering

Zhe Liu, Haojian Huang, Sukumar Letchmunan

BGEK: External Knowledge-enhanced Graph Convolutional Networks for Rumor Detection in Online Social Networks

Xiaoda Wang, Chenxiang Luo, Tengda Guo, Zhangrui Liu, Jiongyan Zhang, Haizhou Wang

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DNFS: a Digraph Neural Network with the First-order and the Second-order Similarity

Yuanyuan Liu, Adele Lu Jia

GatedGCN with GraphSage to Solve Traveling Salesman Problem

Hua Yang

Graph Convolutional Network Semantic Enhancement Hashing for Self-supervised Cross-Modal Retrieval

JinYu Hu, MingYong Li, JiaYan Zhang

Multimodal Cross-Attention Graph Network for Desire Detection

Ruitong Gu, Xin Wang, Qinghong Yang

Sequence-based Modeling for Temporal Knowledge Graph Link Prediction

Wenqiang Liu, Lijie Li, Zuobin Xiong, Ye Wang

9:00 - 11:15

Session 61, Main Event: Ler 3 (Learning)

[Remote Session, Room 5](#)

Chair: Dr. Yan Lu

A Partitioned Detection Architecture for Oriented Objects

Shuyang Zhang, Yuntao Wei

An exploitation-enhanced Bayesian optimization algorithm for high-dimensional expensive problems

Yuqian Gui, Dawei Zhan, Tianrui Li

Balancing Selection and Diversity in Ensemble Learning with Exponential Mixture Model

Kosuke Sugiyama, Masato Uchida

Diffusion Policies as Multi-Agent Reinforcement Learning Strategies

Jinkun Geng, Hongzhi Wang, Yu Zhao, Xiubo Liang

Fast Generalizable Novel View Synthesis with Uncertainty-Aware Sampling

Zhixiong Mo, Weijun Wu, Weihao Yu, Tinghua Zhang, Zhilin Ke, Jin Huang

Generating Question-Answer Pairs for Few-shot Learning

yuchen Wang, Li Li

Prototype Contrastive Learning for Personalized Federated Learning

Siqi Deng, Liu Yang

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9:00 - 11:15

Session 62, Main Event: ML 11 (Machine Learning)

[Remote Session, Room 6](#)

Chair: Dr. Konstantinos Leontidis

I²KD-SLU: An Intra-Inter Knowledge Distillation Framework for Zero-Shot Cross-Lingual Spoken Language Understanding

Tianjun Mao, Chenghong Zhang

Joint Demosaicing and Denoising with Frequency Domain Features

Feiyu Li, Jun Yang

Optimal Node Embedding Dimension Selection Using Overall Entropy

Xinrun Xu, Zhiming Ding, Yurong Wu, Jin Yan, Shan Jiang, Qinglong Cui

PCDialogEval: Persona and Context Aware Emotional Dialogue Evaluation

Yuxi Feng, Linlin Wang, Zhu Cao, Liang He

RegionRel: A Framework for Jointly Extracting Relational Triplets by Performing Sub-tasks by Region

zihao li, Qun Mo

Ship Attitude Prediction Based on Dynamic Sliding Window and EEMD-SSA-BiLSTM

Jiaqi Wang, Yaojie Chen

TSP Combination Optimization with Semi-local Attention Mechanism

Hua Yang

9:00 - 11:15

Session 63, Main Event: SVR / MG 2 (Speech - Video Recognition / Music Generation)

[Remote Session, Room 7](#)

Chair: Professor Sheng Li

Adaptive Token Excitation With Negative Selection For Video-Text Retrieval

Juntao Yu, Zhangkai Ni, Taiyi Su, Hanli Wang

Boosting Video Super Resolution with Patch-Based Temporal Redundancy Optimization

Yuhao Huang, Hang Dong, Jinshan Pan, Chao Zhu, Boyang Liang, Yu Guo, Ding Liu, Lean Fu, Fei Wang

Correction while Recognition: Combining Pretrained Language Model for Taiwan-accented Speech Recognition

Sheng Li, Jiyi Li

Gated Multi-Modal Fusion with Cross-Modal Contrastive Learning for Video Question Answering

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Chenyang Lyu, Wenxi Li, Tianbo Ji, Liting Zhou, Cathal Gurrin
Linear Transformer-GAN: A Novel Architecture to Symbolic Music Generation
Dingxiaofei Tian, Jinyan Chen, Zheyang Gao, Gang Pan
OWS-Seg: online weakly supervised video instance segmentation via contrastive learning
Yuanxiang Ning, Fei Li, Mengping Dong, Zhenbo Li
Self-Supervised Video Object Segmentation Using Motion Feature Compensation
Tianqi Zhang, Bo Li

11:15 - 13:00

Session 64, Main Event: ML - GA (Machine Learning/ Generative Adversarial)

[Hybrid Session, Room 1](#)

Chair: Mr. Romain Ferrand

Exploring the Role of Recursive Convolutional Layer in Generative Adversarial Networks
Barbara Toniella Corradini, Paolo Andreini, Markus Hagenbuchner, Franco Scarselli, Ah Chung Tsoi

Low-frequency Features Optimization for Transferability Enhancement in Radar Target Adversarial Attack

Bo Peng, Bowen Peng, Jie Zhou, Xichen Huang, Lingxin Meng, Xunzhang Gao

LRP-GUS: A visual based data reduction algorithm for Neural Networks

Arnaud Guibert, Christophe Hurter, Nicolas Couellan

Mining and Injecting Legal Prior Knowledge to Improve the Generalization Ability of Neural Networks in Chinese Judgments

Yaying Chen, Ji Ma, Nanfei Gu, Xintong Wang, Minghua He

SAL: Salient Adversarial Attack with LRP Refinement

Xinlei Gao, Jing Liu

Towards background and foreground color robustness with adversarial right for the right reasons

flavio santos, Maynara Souza, cleber zanchettin

11:15 - 13:00

Session 65, Main Event: DTL (Deep / Transfer Learning)

[Hybrid Session, Room 2](#)

Chair: Professor Ali Minai

A Comparative Study of Sentence Embedding Models for Assessing Semantic Variation

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Deven Mistry, Ali Minai
Efficient Reinforcement Learning using State-Action Uncertainty with Multiple Heads
Tomoharu Aizu, Takeru Oba, Norimichi Ukita
Energy Complexity Model for Convolutional Neural Networks
Jiri Sima, Petra Vidnerová, Vojtech Mrazek
Interaction of Generalization and Out-of-Distribution Detection Capabilities in Deep Neural Networks
Francisco Javier Klaiber Aboitiz, Robert Legenstein, Ozan Özdenizci
One Hip Wonder: 1D-CNNs Reduce Sensor Requirements for Everyday Gait Analysis
Jens Seemann, Tim Loris, Lukas Weber, Matthias Synofzik, Martin A. Giese, Winfried Ilg
Who breaks early, loses: goal oriented training of deep neural networks based on port Hamiltonian dynamics
Julian Burghoff, Marc Heinrich Monells, Hanno Gottschalk

11:15 - 13:00

Session 66, Main Event: NN / S(G)NN 3 (Neural Networks / SNN / SGNN Modeling)

[Remote Session, Room 3](#)

Chair: Dr. Kanata Suzuki

A spatial interpolation method based on meta-learning with spatial weighted neural networks
Liang Zhu, Shijie Jiao, Xin Song, Yonggang Wei, Yu Wang
Adapted Methods for GAN Vocoders via Skip-Connections ISTFT and Cooperative Structure
Shaoqi Xiao, Jian Yang
Mixed-mode response of Nigral Dopaminergic neurons: an in silico study on SpiNNaker
Pavan Kumar Enuganti, Basabdatta Sen Bhattacharya
SGNN: A new method for learning representations on signed networks
Ji Jin, Jialin Bi, Cunquan Qu
SkaNet: Split Kernel Attention Network
Lipeng Chen, Daixi Jia, Hang Gao, Fengge Wu, Junsuo Zhao
Syntax-Aware Complex-Valued Neural Machine Translation
Yang Liu, Yuexian Hou

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11:15 - 13:00

Session 67, Main Event: RRL (Reinforcement / Recurrent Learning)

[Remote Session, Room 4](#)

Chair: Dr. Takuya Kanazawa

Improving Generalization of Multi-agent Reinforcement Learning through Domain-Invariant Feature Extraction

Yifan Xu, Zhiqiang Pu, Qiang Cai, Feimo Li, Xinghua Chai

Latent-Conditioned Policy Gradient for Multi-Objective Deep Reinforcement Learning

Takuya Kanazawa, Chetan Gupta

LIIVSR: A Unidirectional Recurrent Video Super-Resolution Framework with Gaussian Detail Enhancement and Local Information Interaction Modules

Kaishan Lin, Jianping Luo

Masked Scale-Recurrent Network for Incomplete Blurred Image Restoration

Jingzhou Zhu, Wentao Chao, Dong Yang

Pacesetter Learning For Large Scale Cooperative Multi-Agent Reinforcement Learning

Pingqi Zhou, Chao Li, Mengwei Qiu, Jun Liu, Chennan Ma, Ming Yan

Stable Learning Algorithm Using Reducibility for Recurrent Neural Networks

Seiya Satoh

11:15 - 13:00

Session 68, Main Event: CL - BI 2 (Classification - Biomedical)

[Remote Session, Room 5](#)

Chair: Dr. Abraham Yosipof

BF-Net: A Fine-Grained Network for Identify Bacterial and Fungal Keratitis

Kangyu-Lin, Jianwei-Zhang, Xiuying-Jiang, Jianxin-Liu, and Shiyong-Zhou

Bilateral Mammogram Mass Detection Based On Window Cross Attention

Yuan Hua, Yan Yimao, Dong Shoubin

FAIR: A Causal Framework for Accurately Inferring Judgments Reversals

Minghua He, Nanfei Gu, Yuntao Shi, Qionghui Zhang, Yaying Chen

GH-QFL: Enhancing Industrial Defect Detection through Hard Example Mining

Xianjing Xiao, Yan Du, Rui Yang, Runze Hu, Xiu Li

IESBU-Net: A lightweight skin lesion segmentation UNet with inner-module extension and skip-connection bridge

Cunhao Lu, Huahu Xu, Minghong Wu, Yuzhe Huang

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Semi-Supervised Learning Classifier for Misinformation Related to Earthquakes Prediction on Social Media

Or Elroy, Abraham Yosipof

11:15 - 13:00

Session 69, Main Event: ML 12 (Machine Learning)

[Remote Session, Room 6](#)

Chair: Professor Panayiotis Kolios

Application of Data Encryption in Chinese Named Entity Recognition

Jikun Dong, kaifang Long, Hui Yu, Weizhi Xu

Delineation of prostate boundary from medical images via a mathematical formula-based hybrid algorithm

Tao Peng, Daqiang Xu, Yiyun Wu, Jing Zhao, Hui Mao, Jing Cai, Lei Zhang

Improving Limited Resource Speech Recognition Performance with Latent Regression Bayesian Network

Liang Xu, Yue Zhao, Xiaona Xu, Yigang Liu, Qiang Ji

Multi-relation Identification for Few-shot Document-level Relation Extraction

Dazhuang Wang, Shaojuan Wu, Xiaowang Zhang, Zhiyong Feng

Multi-task Pre-training for Lhasa-Tibetan Speech Recognition

Yigang Liu, Yue Zhao, Xiaona Xu, Liang Xu, Xubei Zhang

Towards Better Dialogue Utterance Rewriting via a Gated Span-Copy Mechanism

Qingqing Li, Fang Kong

11:15 - 13:00

Session 70, Main Event: OD / TL 2 (Object Detection / Transfer Learning)

[Remote Session, Room 7](#)

Chair: Dr. Konstantinos Leontidis

A Shallow Information Enhanced Efficient Small Object Detector based on YOLOv5

Minhu Yang, Hexiang Bai

Automatic Driving Scenarios: A Cross-Domain Approach for Object Detection

Shengheng Liu, Jiacheng Chen, Lei Li, Yahui Ma, Yongming Huang

Dual Attention Feature Fusion for Visible-Infrared Object Detection

Yuxuan Hu, Limin Shi, Libo Yao, Lubin Weng

Few-Shot Object Detection via Transfer Learning and Contrastive Reweighting

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Zhen Wu, Haowei Li, Dongyu Zhang

Transforming Limitations into Advantages: Improving Small Object Detection Accuracy with SC-AttentionIoU Loss Function

MingLe Zhou, ChangLe Yi, Min Li, HongLin Wan, Gang Li, DeLong Han

Visual-Haptic-Kinesthetic Object Recognition with Multimodal Transformer

Xinyuan Zhou, Shiyong Lan, Wenwu Wang, Xinyang Li, Siyuan Zhou, Hongyu Yang

14:00-15:00

Session 71, Keynote speech: “Intelligent Pervasive Applications for Holistic Health Management”

Hybrid Session, Room 1 – Keynote 4

Chair: Professor Lazaros Iliadis

Keynote Speaker: Professor Ilias Maglogiannis

Professor at Dept of Digital Systems, University of Piraeus, Greece

15:30 - 17:15

Session 72, Main Event: DTL - BI (Deep / Transfer Learning - Biomedical)

[Hybrid Session, Room 1](#)

Chair: Dr. Petra Vidnerova

Advancing Brain Tumor Detection with Multiple Instance Learning on Magnetic Resonance Spectroscopy Data

Diyuan Lu, Gerhard Kurz, Nenad Polomac, Iskra Gacheva, Elke Hattingen, Jochen Triesch

Analysis and Interpretation of ECG Time series through Convolutional Neural Networks in Brugada Syndrome Diagnosis

Alessio Micheli, Marco Natali, Luca Pedrelli, Lorenzo Simone, Maria-Aurora Morales, Marcello Piacenti, Federico Vozzi

Maintenance automation using deep learning methods a case study from the aerospace industry

P.J Mayhew, H. Ihshaish, I. Deza, A. Del Amo

Risk stratification of malignant melanoma using neural networks

Julian Burghoff, Leonhard Ackermann, Younes Salahdine, Veronika Bram, Katharina Wunderlich, Julius Balkenhol, Thomas Dirschka, Hanno Gottschalk

VPNDroid: Malicious Android VPN detection using a CNN-RF method

Nikolaos Polatidis, Elias Pimenidis, Marcello Trovati, Lazaros Iliadis

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15:30 - 17:15

Session 73, Main Event: RRL - CL (Reinforcement / Recurrent Learning - Classification)

[Hybrid Session, Room 2](#)

Chair: Professor Sebastian Otte

Group-Agent Reinforcement Learning

Kaiyue Wu, Xiao-Jun Zeng

MCAPR: Multi-Modality Cross Attention for Camera Absolute Pose Regression

qiqi shu, Zhaoliang Luan, Stefan Poslad, Marie-Luce Bourguet, Meng Xu

Neurodynamical Model of the Visual Recognition of Dynamic Bodily Actions from Silhouettes

Prerana Kumar, Nick Taubert, Rajani Raman, Anna Bognar, Ghazal G. Nejad, Rufin Vogels, Martin A. Giese

PACE: Point Annotation-Based Cell Segmentation for Efficient Microscopic Image Analysis

Nabeel Khalid, Tiago Froes, Maria Caroprese, Gillian Lovell, Johan Trygg, Andreas Dengel, Sheraz Ahmed

t-ConvESN: Temporal Convolution-Readout for Random Recurrent Neural Networks

Matthew Evanusa, Vaishnavi Patil, Michelle Girvan, Joel Goodman, Cornelia Fermuller, Yiannis Aloimonos

15:30 - 17:45

Session 74, Main Event: RRL - NL (Reinforcement / Recurrent Learning - Natural Language)

[Remote Session, Room 3](#)

Chair: Professor JUNJIE LI

A Further Exploration of Deep Multi-Agent Reinforcement Learning with Hybrid Action Space

hongzhi hua, ruiwei zhao, guixuan wen, kaigui wu

Air-to-Ground Active Object Tracking via Reinforcement Learning

Xin Liu, Weiya Ren, Jie Tan, Xiaochuan Zhang, Xiaoguang Ren, Huadong Dai

BLR:A multi-modal sentiment analysis model

Yang Yang, Zhonglin Ye, Haixing Zhao, Gege Li, Shujuan Cao

Detecting Negative Sentiment on Sarcastic Tweets for Sentiment Analysis

Qingyuan Li, Kai Zhang, Lin Sun, Ruichen Xia

Prompt-oriented Fine-tuning Dual Bert for Aspect-Based Sentiment Analysis

Wen Yin, Yi Xu, Cencen Liu, Chuanjie Liu, Dezhang Zheng, Qi Wang

Towards Energy-Efficient Sentiment Classification with Spiking Neural Networks

Junhao Chen, Xiaojun Ye, Jingbo Sun, Chao Li

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Using Masked Language Modeling to Enhance BERT-based Aspect-Based Sentiment Analysis for Affective Token Prediction

weiqiang jin, Biao Zhao, Chengxing Liu, Heng Zhang, Mengying Jiang

15:30 - 17:45

Session 75, Main Event: CL - BI 3 (Classification - Biomedical)

[Remote Session, Room 4](#)

Chair: Professor Seiya Satoh

An auxiliary modality based Text-Image matching methodology for fake news detection

Ying Guo, Bingxin Li, Hong Ge, Chong Di

Boundary Attentive Spatial Multi-Scale Network For Cardiac MRI Image Segmentation

Ran You, Qing Zhu, Zhiqiang Wang

Exploiting Multi-modal Fusion for Robust Face Representation Learning with Missing Modality

Yizhe Zhu, Xin Sun, Xi Zhou

Glancing text and vision regularized training to enhance machine translation

pei cheng, Xiayang Shi, Beibei Liu, Meng Li

Imbalanced Few-shot Learning based on Meta-transfer Learning

Yan Chu, Xianghui Sun, Songhao Jiang, Tianwen Xie, Zhengkui Wang, Wen Shan

MC-MLP: A Multiple Coordinate Frames MLP-Like Architecture for Vision

Zhimin Zhu, Jianguo Zhao, Tong Mu, Yuliang Yang, Mengyu Zhu

Selecting Distinctive-Variant Training Samples Base on Intra-class Similarity

Hang Diao, zhengchang liu, Fan Zhang, Jiaqing Huang, Feiyu Zhou, Samee U.Khan

15:30 - 17:45

Session 76, Main Event: GM / TL / IC 1 (Graph Machine / Transfer Learning - Image Classification)

[Remote Session, Room 5](#)

Chair: Professor Chrisina Jayne

Adaptive Training Strategies for Small Object Detection using Anchor-based Detectors

Shenmeng Zhang, Yongqing Sun, Jia Su, Guoxi Gan, Zonghui Wen

GNN-MRC: Machine Reading Comprehension based on GNN Augmentation

Sen Zhang, Baokui Li

K-DLM: A Domain-Adaptive Language Model Pre-Training Framework with Knowledge Graph

Jiaxin Zou, Zuotong Xie, Junhua Chen, Jiawei Hou, Qiang Yan, Hai-Tao Zheng

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LGF2: Local and Global Feature Fusion for Text-guided Object Detection

Shuyu Miao, Hexiang Zheng, Lin Zheng, Hong Jin

PE-YOLO: Pyramid Enhancement Network for Dark Object Detection

Xiangchen Yin, Zhenda Yu, Zetao Fei, Wenjun Lv, Xin Gao

Region Feature Disentanglement for Domain Adaptive Object Detection

Rui Wang, Shouhong Wan, Peiquan Jin

The Statistical Characteristics of P3a and P3b Subcomponents in Electroencephalography Signals

Resfianti Nur Azizah, Karine Ravienna, Lyra Puspa, Yudiansyah Akbar, Lula Kania Valenza, Galih Restu Fardian Suwandi, Siti Nurul Khotimah, Mohammad Haekal

15:30 - 17:45

Session 77, Main Event: NL / SC / CL (Natural Language / Shape Completion/ Classification)

[Remote Session, Room 6](#)

Chair: Professor Jing Zhou

CFNet: Point Cloud Upsampling via Cascaded Feedback Network

Wang Xuan, Li Yi, Wang Linna, Lu Li

DA-TSD: Double Attention Two-Stage 3D Object Detector from Point Clouds

Zhao Xinyi, Li Yong, Tian Rui, Chen Yunli

Enhanced Point Cloud Interpretation via Style Fusion and Contrastive Learning in Advanced 3D Data Analysis

Ruimin Zhou, Chung-Ming Own

Learning Video Localization on Segment-Level Video Copy Detection with Transformer

Chi Zhang, Jie Liu, Shuwu Zhang, Zhi Zeng, Ying Huang

Local or Global: The Variation in the Encoding of Style Across Sentiment and Formality

Somayeh Jafaritazehjani, Gwénolé Lecorvé, Damien Lolive, John Kelleher

MBMS-GAN: Multi-Band Multi-Scale Adversarial Learning for Enhancement of Coded Speech at Very Low Rate

Qianhui Xu, Weiping Tu, Yong Luo, Xin Zhou, Li Xiao, Youqiang Zheng

PoinLin-Net: Point Cloud Completion Network Based on Geometric Feature Extraction and Linformer Structure

Dejie Li, Kejin Huang, Yinchu Wang, Haijiang Zhu

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15:30 - 17:45

Session 78, Main Event: ML / TM / AR (Machine Learning / Text Mining / AutoRegression)

[Remote Session, Room 7](#)

Chair: Professor Nikolaos Polatidis

How to Extract and Interact? Nested Siamese Text Matching with Interaction and Extraction.

Jianxiang Zang, Hui Liu

MAGNet: Muti-scale Attention and Evolutionary Graph Structure for Long Sequence Time-Series Forecasting

Zonglei Chen, Fan Zhang, Tianrui Li, Chongshou Li

Multi-Timestep-Ahead Prediction with Mixture of Experts for Embodied Question Answering

Kanata Suzuki, Yuya Kamiwano, Naoya Chiba, Hiroki Mori, Tetsuya Ogata

Rethink the Top-u Attention in Sparse Self-attention for Long Sequence Time-Series Forecasting

Xiangxu Meng, Wei Li, Tarek Gaber, Zheng Zhao, Chuhao Chen

Text Semantic Matching Research Based on Parallel Dropout

Zhuangzhuang Li, Zengzhen Shao, Jianxin Xiao, Zixiao Yu, Xu Zhang

Towards Better Core Elements Extraction for Customer Service Dialogue Text

Shengjie Ji, Chun Chen, Fang Kong

UIT: Unifying Pre-Training Objectives for Image-Text Understanding

Guoqiang Xu, Shenggang Yan

17:45-18:15 Closing Session

[Hybrid Session, Room 1](#)

Chair: Prof. Stefan Wermter

19:00-21:00 Closing Ceremony / Gala Dinner

Closing Ceremony / Gala Dinner is not included in the conference registration fee. A participation ticket is required.

More info about the Closing Ceremony / Gala Dinner will be available on the on-site registration desk of the conference.

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Webex Events Platform Access Links

Main Rooms:

Room links will be available to all registered participants.

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Remote participation:

All ICANN 2023 rooms will be hosted by Webex Suite platform.

Conference participants can join all rooms from everywhere in the world while physical / hybrid rooms will be also physically hosted at the conference venue.

Remote rooms will NOT be hosted at the conference venue. Physically attending participants can join all remote rooms by using their own equipment.

We strongly recommend all remote presenters to join **ICANN 2023 Demo & Support Room** (at any day that it will be convenient for them) to test their presentation, their system configuration and to be familiarized with the platform. Webex Suite platform is fully compatible with most common operating systems, but we strongly recommend all participants to join ICANN 2023 Demo & Support Room in order to check their settings and solve any compatibility issues.

A Webex test room is 24/7 available at <https://www.webex.com/test-meeting.html>. Participants can join (even from multiple devices at the same time) in order to be familiarized with the platform.

ICANN 2023 Demo & Support Room will be available during the conference days, but it will be also available before the conference based on the schedule that can be found below.

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Remote participants just need to select the proper room link, provide their full name and email and then just follow the Webex platform instructions in order to join the room.

A member of ICANN 2023 team will be available at each conference room to provide any necessary support.

Support Room:

[32nd ICANN 2023 Registration, Demo & Support Room](https://icann.webex.com/icann/j.php?MTID=m68e92c05c736c1398694828f8e578d8a)

<https://icann.webex.com/icann/j.php?MTID=m68e92c05c736c1398694828f8e578d8a>

During conference days our ICANN 2023 Registration Demo & Support Room will be available as follows:

- Tuesday 26th of September 2023, 09:00 to 18:00
- Wednesday 27th of September 2023, 09:00 to 19:00
- Thursday 28th of September 2023, 09:00 to 18:30
- Friday 29th of September 2023, 09:00 to 18:00

Before the conference days our ICANN 2023 Registration Demo & Support Room will be available as follows:

- Monday 18th of September 2023, 11:00 to 13:30
- Tuesday 19th of September 2023, 14:00 to 16:00
- Wednesday 20th of September 2023, 17:00 to 18:30
- Thursday 21st of September 2023, 13:00 to 15:00
- Monday 25th of September 2023, 10:30 to 12:30

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