

# Computer Vision Winter Workshop 2023

15.-17.02.2023, Krems a.d. Donau

## Program

### **Wednesday, 15.02.2023**

11:00 – 13:30 Arrival and registration  
12:00 – 13:30 Lunch  
13:30 – 13:40 Opening (Robert Sablatnig)  
13:40 – 14:50 Keynote (Franc Solina, Vaclav Hlavac)  
    Chair: Wilhelm Burger  
14:50 – 15:30 Document Analysis  
    Chair: Florian Kleber  
15:30 – 16:00 Walk to Winzer Krems  
16:00 – 17:30 Winzer Krems (Social Event)  
18:00 – 18:40 Medical Data Analysis  
    Chair: Peter M. Roth  
19:00 Dinner

### **Thursday, 16.02.2023**

07:00 – 09:00 Breakfast  
09:00 – 10:20 3D Computer Vision 1  
    Chair: Jiri Matas  
10:20 – 10:40 Coffee Break  
10:40 – 12:20 3D Computer Vision 2  
    Chair: Martin Kampel  
12:20 – 14:00 Lunch  
  
14:00 – 15:40 Vision Applications and Systems, Vision for Robotics  
    Chair: Danijel Skocaj  
15:40 – 16:20 Coffee Break  
16:20 – 18:00 Computer Vision: Recognition, Segmentation, Retrieval,... 1  
    Chair: Tomas Svoboda  
18:50 Hike to Conference Dinner Location  
  
19:30 Conference Dinner @Schwarzalm

### **Friday, 17.02.2023**

07:00 – 09:00 Breakfast  
09:00 – 10:40 Computer Vision: Recognition, Segmentation, Retrieval,... 2  
    Chair: Vitomir Struc  
10:40 – 11:10 Coffee Break  
11:10 – 12:30 Computer Vision: Recognition, Segmentation, Retrieval,... 3  
    Chair: Jan Kotera  
12:30 – 12:40 Closing CVWW 2023 (Robert Sablatnig)  
12:40 – 14:00 Lunch

## Sessions

### Document Analysis

14	<b>Text Detection Forgot About Document OCR</b> , Olejniczak, Krzysztof M; Šulc, Milan*
27	<i>Invited Presentation: Direct and Indirect Cell Detection using Detection Transformer for Table Structure Recognition</i> , C. Preinsperger, F. Kleber

### Medical Data Analysis

3	<i>Invited Presentation: Explainable Visualization Techniques for Transformers in Flow Cytometry Data</i> , Kowarsch, Florian*; Weijler, Lisa; Wödlinger, Matthias; Kleber, Florian; Maurer-Granofszky, Margarita; Reiter, Michael; Dworzak, Michael
31	<b>Learned Lossy Image Compression for Volumetric Medical Data</b> , Kotera, Jan*; Wödlinger, Matthias; Keglevic, Manuel

### 3D Computer Vision 1

5	<i>Invited Presentation: Self-Supervised Pre-Training for 3D Object Detection using Masked Autoencoders</i> , Krispel, Georg*; Schinagl, David; Fruhwirth-Reisinger, Christian; Possegger, Horst; Bischof, Horst
6	<i>Invited Presentation: Estimating 3D Model and 6DoF Tracking of Unknown Objects in Videos</i> , Rozumnyi, Denys*; Matas, Jiri; Pollefeys, Marc; Ferrari, Vittorio; Oswald, Martin R.
8	<i>Invited Presentation: 3D-TTT: Online Test-Time Training for 3D Point Clouds via Masked Autoencoders</i> , Mirza, Muhammad Jehanzeb*; Lin, Wei; Kozinski, Mateusz; Possegger, Horst; Bischof, Horst
9	<i>Invited Presentation: Simple Convolution for Point Cloud Processing</i> , P. Hermosilla Casajus

### 3D Computer Vision 2

11	<i>Invited Presentation: Confidence Boosting for 3D Object Detectors on LiDAR-Data using Spatial Relationships</i> , Schinagl, David*; Krispel, Georg; Fruhwirth-Reisinger, Christian; Possegger, Horst; Bischof, Horst
23	<b>3D Trajectory Registration for Sensor Calibration</b> , Tóth, Tekla*; Valasek, Gábor; Hajder, Levente
28	<b>Symmetry-based 3D object completion using local geometry features</b> , Hryniv, Rostyslav; Doboševych, Oles; Rumezhak, Taras; Hilei, Pavlo; Karpiv, Volodymyr; Selotkin, Vladyslav; Omelkina, Daria*
30	<b>Real3D-Aug: Point Cloud Augmentation by Placing Real Objects with Occlusion Handling for 3D Detection and Segmentation</b> , Sebek, Petr; Pokorný, Simon; Vacek, Patrik*; Svoboda, Tomas
10	<i>Invited Presentation: Fast Globally Optimal Surface Normal Estimation from an Affine Correspondence</i> , Hajder, Levente*; Barath, Daniel; Loczi, Lajos

### Vision Applications and Systems, Vision for Robotics

26	<i>Invited Presentation: HIDRA-T – A Transformer-Based Sea Level Forecasting Method</i> , Rus, Marko*; Fettich, Anja; Kristan, Matej; Ličer, Matjaž
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29	<i>Invited Presentation:</i> <b>Ego2DHands: Generating 2D Hand Skeleton in Egocentric Vision</b> , Mucha, Wiktor*; Kampel, Martin
34	<i>Invited Presentation:</i> <b>Context-aware Robot control using user intent estimation from purposeful hand gestures</b> , Vanc, Petr*; Stepanova, Karla; Behrens, Jan Kristof; Hlavac, Vaclav
36	<b>Hallucinating Hidden Obstacles for Unmanned Surface Vehicles Using a Compositional Model</b> , Muhovic, Jon; Koporec, Gregor; Perš, Janez*
24	<i>Invited Presentation:</i> <b>DiTra: A Distractor-Aware Transparent Object Tracker</b> , Lukezic, Alan*; Trojer, Žiga; Matas, Jiri; Kristan, Matej

### Computer Vision: Recognition Segmentation, Retrieval, ... 1

1	<i>Invited Presentation:</i> <b>Fully Differentiable RANSAC</b> , Wei, Tong*; Patel, Yash; Matas, Jiri; Barath, Daniel
2	<i>Invited Presentation:</i> <b>Domain Adaptation for Image Retrieval under Severe Illumination Changes</b> , Mohwald, Albert*; Jenicek, Tomas; Chum, Ondrej
4	<i>Invited Presentation:</i> <b>AffineGlue: Who Needs Feature Matching?</b> , Barath, Daniel*; Mishkin, Dmytro; Hruby, Petr; Cavalli, Luca; Sarlin, Paul-Edouard; Pollefeys, Marc
7	<b>TAEC: Unsupervised Action Segmentation with Temporal-Aware Embedding and Clustering</b> , Lin, Wei*; Kukleva, Anna; Possegger, Horst; Kuehne, Hilde; Bischof, Horst
17	<b>Impact of Learned Domain Specific Compression on Satellite Image Object Classification</b> , Bayerl, Alexander*; Keglevic, Manuel; Wödinger, Matthias; Sablatnig, Robert

### Computer Vision: Recognition Segmentation, Retrieval, ... 2

12	<i>Invited Presentation:</i> <b>A Low-Shot Object Counting Network With Iterative Prototype Adaptation</b> , Zavrtanik, Vitjan*; Lukezic, Alan; Kristan, Matej
13	<i>Invited Presentation:</i> <b>Exploring Model and Dataset Scaling for Large-Scale Face Super-Resolution</b> , Grm, Klemen*; Struc, Vitomir
15	<i>Invited Presentation:</i> <b>Improving Performance of Face Image Quality Assessment Methods Using Label Optimization and Transfer Learning</b> , Babnik, Žiga*; Struc, Vitomir
18	<b>VinVL+L: Enriching Visual Representation with Location Context in VQA</b> , Vyskočil, Jiří*; Pícek, Lukas
19	<i>Invited Presentation:</i> <b>REAL-TIME SUPERMARKET PRODUCT RECOGNITION ON MOBILE DEVICES USING SCALABLE PIPELINES</b> , Strohmayer, Julian*; Kampel, Martin

### Computer Vision: Recognition Segmentation, Retrieval, ... 3

20	<i>Invited Presentation:</i> <b>Enhancing CNN Generalization Performance in Domains with Different Visual Cues</b> , Efthymiadis, Nikos*; Toliás, Giorgos; Chum, Ondrej
22	<i>Invited Presentation:</i> <b>Moving cable segmentation dataset</b> , Holesovsky, Ondrej*; Skoviera, Radoslav; Hlavac, Vaclav
25	<b>Exploring the Relationship between Dataset Size and Image Captioning Model Performance</b> , Železný, Tomáš*; HRUZ, Marek
32	<i>Invited Presentation:</i> <b>LaRS – A Panoptic Maritime Obstacle Detection Benchmark</b> , Žust, Lojze*; Perš, Janez; Kristan, Matej