



We've just launched a new service: our brand new **dblp SPARQL query service**. Read more about it in our latest blog post or try out some of the SPARQL queries linked on the dblp web pages below.



search dblp

[+] CVPR 2021: Virtual Event

> Home > Conferences and Workshops > CVPR

Dagstuhl

IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2021, virtual, June 19-25, 2021. Computer Vision Foundation / IEEE 2021

[+] SPARQL queries

[–] Refine list

showing all 1,661 records

refine by search term

refine by author

Jian Sun 0001 (15)  
Luc Van Gool (15)  
Chunhua Shen (14)  
Dacheng Tao (13)  
Feiyue Huang (13)  
Ling Shao 0001 (12)  
Yi Yang 0001 (11)  
Chen Change Loy (11)  
Chang Xu 0002 (11)  
Ziwei Liu 0002 (10)  
Marc Pollefeys (10)  
5,684 more options

refine by access   
open (1,661)

Papers

- Tianyu Wang, Xiaowei Hu, Chi-Wing Fu, Pheng-Ann Heng: **Single-Stage Instance Shadow Detection With Bidirectional Relation Learning.** 1-11
- Minghua Liu, Minhyuk Sung , Radomír Mech, Hao Su: **DeepMetaHandles: Learning Deformation Meta-Handles of 3D Meshes With Biharmonic Coordinates.** 12-21
- Marie-Julie Rakotosaona, Paul Guerrero, Noam Aigerman, Niloy J. Mitra, Maks Ovsjanikov: **Learning Delaunay Surface Elements for Mesh Reconstruction.** 22-31
- Bingbing Zhuang, Manmohan Chandraker: **Fusing the Old with the New: Learning Relative Camera Pose with Geometry-Guided Uncertainty.** 32-42
- Ruoxi Shi, Zhengrong Xue , Yang You, Cewu Lu: **Skeleton Merger: An Unsupervised Aligned Keypoint Detector.** 43-52
- Wenfei Yang, Tianzhu Zhang, Xiaoyuan Yu, Qi Tian, Yongdong Zhang, Feng Wu: **Uncertainty Guided Collaborative Training for Weakly Supervised Temporal Action Detection.** 53-63
- Shugao Ma, Tomas Simon, Jason M. Saragih, Dawei Wang, Yuecheng Li, Fernando De la Torre, Yaser Sheikh: **Pixel Codec Avatars.** 64-73
- Bumsoo Kim, Junhyun Lee, Jaewoo Kang, Eun-Sol Kim, Hyunwoo J. Kim: **HOTR: End-to-End Human-Object Interaction Detection With Transformers.** 74-83
- Bo Sun, Junchi Yan, Xiao Zhou, Yinqiang Zheng : **Tuning IR-Cut Filter for Illumination-Aware Spectral Reconstruction From RGB.** 84-93
- Valentin Wolf, Andreas Lugmayr, Martin Danelljan, Luc Van Gool, Radu Timofte : **DeFlow: Learning Complex Image Degradations From Unpaired Data With Conditional Flows.** 94-103
- Peng Chen, Jing Liu , Bohan Zhuang, Mingkui Tan, Chunhua Shen: **AQD: Towards Accurate Quantized Object Detection.** 104-113
- Wei Gao, Shangwei Guo, Tianwei Zhang, Han Qiu, Yonggang Wen, Yang Liu: **Privacy-Preserving Collaborative Learning With Automatic Transformation Search.** 114-123
- Pei Wang, Yijun Li, Nuno Vasconcelos : **Rethinking and Improving the Robustness of Image Style Transfer.** 124-133
- Jiaxin Cheng, Ayush Jaiswal, Yue Wu, Pradeep Natarajan, Prem Natarajan: **Style-Aware Normalized Loss for Improving Arbitrary Style Transfer.** 134-143
- Youjiang Xu, Linchao Zhu, Lu Jiang, Yi Yang: **Faster Meta Update Strategy for Noise-Robust Deep Learning.** 144-153
- Jindou Dai, Yuwei Wu, Zhi Gao, Yunde Jia: **A Hyperbolic-to-Hyperbolic Graph Convolutional Network.** 154-163
- Jiangmiao Pang, Linlu Qiu, Xia Li, Haofeng Chen, Qi Li, Trevor Darrell, Fisher Yu: **Quasi-Dense Similarity Learning for Multiple Object Tracking.** 164-173



- Chen Huang, Shuangfei Zhai, Pengsheng Guo, Josh M. Susskind:  
**MetricOpt: Learning To Optimize Black-Box Evaluation Metrics.** 174-183
- Shipeng Wang , Xiaorong Li, Jian Sun, Zongben Xu:  
**Training Networks in Null Space of Feature Covariance for Continual Learning.** 184-193
- Zhaowei Cai, Avinash Ravichandran, Subhransu Maji, Charless C. Fowlkes, Zhuowen Tu, Stefano Soatto:  
**Exponential Moving Average Normalization for Self-Supervised and Semi-Supervised Learning.** 194-203
- Wei Yin, Jianming Zhang, Oliver Wang, Simon Niklaus, Long Mai, Simon Chen, Chunhua Shen:  
**Learning To Recover 3D Scene Shape From a Single Image.** 204-213
- Yanwei Li, Hengshuang Zhao, Xiaojuan Qi, Liwei Wang, Zeming Li, Jian Sun, Jiaya Jia:  
**Fully Convolutional Networks for Panoptic Segmentation.** 214-223
- Lei Li, Ke Gao, Juan Cao, Ziyao Huang, Yepeng Weng, Xiaoyue Mi, Zhengze Yu, Xiaoya Li, Boyang Xia:  
**Progressive Domain Expansion Network for Single Domain Generalization.** 224-233
- Chaorui Deng, Shizhe Chen, Da Chen , Yuan He, Qi Wu:  
**Sketch, Ground, and Refine: Top-Down Dense Video Captioning.** 234-243
- Chiho Choi, Joon Hee Choi, Jiachen Li, Srikanth Malla:  
**Shared Cross-Modal Trajectory Prediction for Autonomous Driving.** 244-253
- Shenzhi Wang, Liwei Wu, Lei Cui, Yujun Shen:  
**Glancing at the Patch: Anomaly Localization With Global and Local Feature Comparison.** 254-263
- Ji Liu, Dong Li, Rongzhang Zheng, Lu Tian, Yi Shan:  
**RankDetNet: Delving Into Ranking Constraints for Object Detection.** 264-273
- Xingyuan Bu , Junran Peng, Junjie Yan, Tieniu Tan, Zhaoxiang Zhang:  
**GAIA: A Transfer Learning System of Object Detection That Fits Your Needs.** 274-283
- Ruijie Yan, Liangrui Peng, Shanyu Xiao, Gang Yao:  
**Primitive Representation Learning for Scene Text Recognition.** 284-293
- Lucas Tabelini Torres, Rodrigo Ferreira Berriel, Thiago M. Paixão, Claudine Badue, Alberto F. De Souza, Thiago Oliveira-Santos:  
**Keep Your Eyes on the Lane: Real-Time Attention-Guided Lane Detection.** 294-302
- Zheng Ge, Songtao Liu, Zeming Li, Osamu Yoshie, Jian Sun:  
**OTA: Optimal Transport Assignment for Object Detection.** 303-312
- Kai Fischer, Martin Simon, Florian Ölsner, Stefan Milz, Horst-Michael Gross, Patrick Mäder:  
**StickyPillars: Robust and Efficient Feature Matching on Point Clouds Using Graph Neural Networks.** 313-323
- Yingjie Cai, Xuesong Chen, Chao Zhang, Kwan-Yee Lin, Xiaogang Wang , Hongsheng Li :  
**Semantic Scene Completion via Integrating Instances and Scene In-the-Loop.** 324-333
- Zhenzhen Weng , Serena Yeung :  
**Holistic 3D Human and Scene Mesh Estimation From Single View Images.** 334-343
- Ruihui Li, Xianzhi Li, Pheng-Ann Heng, Chi-Wing Fu:  
**Point Cloud Upsampling via Disentangled Refinement.** 344-353
- Tong He, Chunhua Shen, Anton van den Hengel:  
**DyCo3D: Robust Instance Segmentation of 3D Point Clouds Through Dynamic Convolution.** 354-363
- Ruibo Li, Guosheng Lin, Tong He, Fayao Liu, Chunhua Shen:  
**HCRF-Flow: Scene Flow From Point Clouds With Continuous High-Order CRFs and Position-Aware Flow Embedding.** 364-373
- Yifan Wang , Shihao Wu, Cengiz Öztureli, Olga Sorkine-Hornung:  
**Iso-Points: Optimizing Neural Implicit Surfaces With Hybrid Representations.** 374-383
- Gautam Pai, Jing Ren , Simone Melzi, Peter Wonka, Maks Ovsjanikov:  
**Fast Sinkhorn Filters: Using Matrix Scaling for Non-Rigid Shape Correspondence With Functional Maps.** 384-393
- Yaqing Ding, Daniel Barath, Jian Yang, Hui Kong , Zuzana Kukelova:  
**Globally Optimal Relative Pose Estimation With Gravity Prior.** 394-403
- Natalia Neverova, Artsiom Sanakoyeu, Patrick Labatut, David Novotný, Andrea Vedaldi:  
**Discovering Relationships Between Object Categories via Universal Canonical Maps.** 404-413
- Hugo Germain, Vincent Lepetit, Guillaume Bourmaud:  
**Neural Reprojection Error: Merging Feature Learning and Camera Pose Estimation.** 414-423
- Seong Hun Lee , Javier Civera:  
**Rotation-Only Bundle Adjustment.** 424-433
- Chaoyang Wang, Simon Lucey :  
**PAUL: Procrustean Autoencoder for Unsupervised Lifting.** 434-443
- Kun Qian , Shilin Zhu, Xinyu Zhang, Li Erran Li:  
**Robust Multimodal Vehicle Detection in Foggy Weather Using Complementary Lidar and Radar Signals.** 444-453
- Li Wang, Liang Du, Xiaoqing Ye, Yanwei Fu , Guodong Guo , Xiangyang Xue, Jianfeng Feng, Li Zhang:  
**Depth-Conditioned Dynamic Message Propagation for Monocular 3D Object Detection.** 454-463



- Junting Pan, Siyu Chen, Mike Zheng Shou, Yu Liu, Jing Shao, Hongsheng Li : **Actor-Context-Actor Relation Network for Spatio-Temporal Action Localization.** 464-474
- Toby Perrett, Alessandro Masullo, Tilo Burghardt, Majid Mirmehdi, Dima Damen: **Temporal-Relational CrossTransformers for Few-Shot Action Recognition.** 475-484
- Zhiwu Qing, Haisheng Su, Weihao Gan, Dongliang Wang, Wei Wu, Xiang Wang, Yu Qiao , Junjie Yan, Changxin Gao, Nong Sang: **Temporal Context Aggregation Network for Temporal Action Proposal Refinement.** 485-494
- Zhi Hou, Baosheng Yu, Yu Qiao , Xiaojiang Peng, Dacheng Tao: **Affordance Transfer Learning for Human-Object Interaction Detection.** 495-504
- Mathieu Serrurier, Franck Mamalet, Alberto González-Sanz , Thibaut Boissin, Jean-Michel Loubes, Eustasio del Barrio : **Achieving Robustness in Classification Using Optimal Transport With Hinge Regularization.** 505-514
- Roi Pony, Itay Naeh, Shie Mannor: **Over-the-Air Adversarial Flickering Attacks Against Video Recognition Networks.** 515-524
- Zhenguang Liu, Haoming Chen, Runyang Feng, Shuang Wu , Shouling Ji, Bailin Yang, Xun Wang: **Deep Dual Consecutive Network for Human Pose Estimation.** 525-534
- Yang Hong, Juyong Zhang, Boyi Jiang, Yudong Guo, Ligang Liu, Hujun Bao: **StereoPIFu: Depth Aware Clothed Human Digitization via Stereo Vision.** 535-545
- Jianfeng Zhang, Dongdong Yu, Jun Hao Liew, Xuecheng Nie, Jiashi Feng: **Body Meshes as Points.** 546-556
- Qi Zhang , Wei Lin , Antoni B. Chan : **Cross-View Cross-Scene Multi-View Crowd Counting.** 557-567
- Stefano d'Apolito, Danda Pani Paudel , Zhiwu Huang, Andrés Romero, Luc Van Gool: **GANmut: Learning Interpretable Conditional Space for Gamut of Emotions.** 568-577
- Xingkun Xu , Yuge Huang, Pengcheng Shen, Shaoxin Li, Jilin Li, Feiyue Huang, Yong Li, Zhen Cui: **Consistent Instance False Positive Improves Fairness in Face Recognition.** 578-586
- Yehansen Chen, Lin Wan, Zhihang Li, Qianyan Jing, Zongyuan Sun: **Neural Feature Search for RGB-Infrared Person Re-Identification.** 587-597
- Anguo Zhang, Yueming Gao, Yuzhen Niu, Wenxi Liu, Yongcheng Zhou: **Coarse-To-Fine Person Re-Identification With Auxiliary-Domain Classification and Second-Order Information Bottleneck.** 598-607
- Lin Wang , Yujeong Chae, Sung-Hoon Yoon, Tae-Kyun Kim , Kuk-Jin Yoon: **EvDistill: Asynchronous Events To End-Task Learning via Bidirectional Reconstruction-Guided Cross-Modal Knowledge Distillation.** 608-619
- Shifeng Zhang, Chen Zhang, Ning Kang, Zhenguo Li: **iVPF: Numerical Invertible Volume Preserving Flow for Efficient Lossless Compression.** 620-629
- Hongyi Zheng, Hongwei Yong, Lei Zhang: **Deep Convolutional Dictionary Learning for Image Denoising.** 630-641
- Zongsheng Yue, Jianwen Xie, Qian Zhao, Deyu Meng: **Semi-Supervised Video Deraining With Dynamical Rain Generator.** 642-652
- Jie Liang, Hui Zeng, Miaomiao Cui, Xuansong Xie, Lei Zhang: **PPR10K: A Large-Scale Portrait Photo Retouching Dataset With Human-Region Mask and Group-Level Consistency.** 653-661
- Ruicheng Feng, Chongyi Li, Huaijin G. Chen, Shuai Li, Chen Change Loy, Jinwei Gu: **Removing Diffraction Image Artifacts in Under-Display Camera via Dynamic Skip Connection Network.** 662-671
- Tao Yang, Peiran Ren, Xuansong Xie, Lei Zhang: **GAN Prior Embedded Network for Blind Face Restoration in the Wild.** 672-681
- Yoshiki Fukao, Ryo Kawahara , Shohei Nobuhara , Ko Nishino: **Polarimetric Normal Stereo.** 682-690
- Younghyun Jo, Seon Joo Kim: **Practical Single-Image Super-Resolution Using Look-Up Table.** 691-700
- Bowen Liu , Yu Chen, Shiyu Liu, Hun-Seok Kim: **Deep Learning in Latent Space for Video Prediction and Compression.** 701-710
- Peipei Cao, Zhangyang Wang, Kede Ma : **Debiased Subjective Assessment of Real-World Image Enhancement.** 711-721
- Abhinanda R. Punnakkal, Arjun Chandrasekaran, Nikos Athanasiou, Alejandra Quiros-Ramirez , Michael J. Black: **BABEL: Bodies, Action and Behavior With English Labels.** 722-731
- Dongyo Han, Sangdoo Yun, Byeongho Heo, Youngjoon Yoo: **Rethinking Channel Dimensions for Efficient Model Design.** 732-741
- Sangyun Oh, Hyeonuk Sim, Sugil Lee, Jongeun Lee: **Automated Log-Scale Quantization for Low-Cost Deep Neural Networks.** 742-751



- Xinshao Wang , Yang Hua , Elyor Kodirov, David A. Clifton, Neil M. Robertson:  
**ProSelfLC: Progressive Self Label Correction for Training Robust Deep Neural Networks.** 752-761
- Sharath Girish, Shishira R. Maiya, Kamal Gupta, Hao Chen, Larry S. Davis, Abhinav Shrivastava:  
**The Lottery Ticket Hypothesis for Object Recognition.** 762-771
- Honggu Liu, Xiaodan Li, Wenbo Zhou, Yuefeng Chen, Yuan He, Hui Xue, Weiming Zhang, Nenghai Yu:  
**Spatial-Phase Shallow Learning: Rethinking Face Forgery Detection in Frequency Domain.** 772-781
- Hila Chefer, Shir Gur, Lior Wolf:  
**Transformer Interpretability Beyond Attention Visualization.** 782-791
- Aditya Golatkar, Alessandro Achille, Avinash Ravichandran, Marzia Polito, Stefano Soatto:  
**Mixed-Privacy Forgetting in Deep Networks.** 792-801
- Seungmin Lee, Dongwan Kim, Bohyung Han:  
**CoSMo: Content-Style Modulation for Image Retrieval With Text Feedback.** 802-812
- Furong Xu, Meng Wang, Wei Zhang, Yuan Cheng, Wei Chu:  
**Discrimination-Aware Mechanism for Fine-Grained Representation Learning.** 813-822
- Gaurav Parmar, Dacheng Li, Kwonjoon Lee, Zhuowen Tu:  
**Dual Contradistinctive Generative Autoencoder.** 823-832
- Han Zhang, Jing Yu Koh, Jason Baldridge, Honglak Lee, Yinfei Yang:  
**Cross-Modal Contrastive Learning for Text-to-Image Generation.** 833-842
- Chia-Ni Lu, Ya-Chu Chang, Wei-Chen Chiu:  
**Bridging the Visual Gap: Wide-Range Image Blending.** 843-851
- Hyunsu Kim, Yunjey Choi, Junho Kim, Sungjoo Yoo, Youngjung Uh :  
**Exploiting Spatial Dimensions of Latent in GAN for Real-Time Image Editing.** 852-861
- Jie An, Siyu Huang , Yibing Song, Dejing Dou, Wei Liu, Jiebo Luo :  
**ArtFlow: Unbiased Image Style Transfer via Reversible Neural Flows.** 862-871
- Haibo Chen, Lei Zhao, Zhizhong Wang, Huiming Zhang, Zhiwen Zuo, Ailin Li, Wei Xing, Dongming Lu:  
**DualAST: Dual Style-Learning Networks for Artistic Style Transfer.** 872-881
- Oran Gafni, Oron Ashual, Lior Wolf:  
**Single-Shot Freestyle Dance Reenactment.** 882-891
- Shuhan Tan, Kelvin Wong, Shenlong Wang, Sivabalan Manivasagam, Mengye Ren, Raquel Urtasun:  
**SceneGen: Learning To Generate Realistic Traffic Scenes.** 892-901
- Xinzhu Bei, Yanchao Yang, Stefano Soatto:  
**Learning Semantic-Aware Dynamics for Video Prediction.** 902-912
- Jie Hong, Pengfei Fang, Weihao Li, Tong Zhang, Christian Simon, Mehrtash Harandi, Lars Petersson :  
**Reinforced Attention for Few-Shot Learning and Beyond.** 913-923
- Piotr Dollár, Mannat Singh, Ross B. Girshick:  
**Fast and Accurate Model Scaling.** 924-932
- Elijah Cole, Oisin Mac Aodha, Titouan Lorieul, Pietro Perona, Dan Morris, Nebojsa Jojic:  
**Multi-Label Learning From Single Positive Labels.** 933-942
- Peng Wang , Kai Han, Xiu-Shen Wei, Lei Zhang, Lei Wang:  
**Contrastive Learning Based Hybrid Networks for Long-Tailed Image Classification.** 943-952
- Muhammad Ferjad Naeem, Yongqin Xian, Federico Tombari, Zeynep Akata:  
**Learning Graph Embeddings for Compositional Zero-Shot Learning.** 953-962
- Heng Guo , Fumio Okura, Boxin Shi, Takuya Funatomi, Yasuhiro Mukaigawa, Yasuyuki Matsushita :  
**Multispectral Photometric Stereo for Spatially-Varying Spectral Reflectances: A Well Posed Problem?** 963-971
- Zhijie Deng, Xiao Yang, Shizhen Xu, Hang Su, Jun Zhu:  
**LiBRe: A Practical Bayesian Approach to Adversarial Detection.** 972-982
- Sian-Yao Huang, Wei-Ta Chu :  
**Searching by Generating: Flexible and Efficient One-Shot NAS With Architecture Generator.** 983-992
- Naoya Takahashi, Yuki Mitsufuji:  
**Densely Connected Multi-Dilated Convolutional Networks for Dense Prediction Tasks.** 993-1002
- Joy Hsu, Wah Chiu, Serena Yeung :  
**DARCNN: Domain Adaptive Region-Based Convolutional Neural Network for Unsupervised Instance Segmentation in Biomedical Images.** 1003-1012
- Quande Liu, Cheng Chen, Jing Qin , Qi Dou, Pheng-Ann Heng:  
**FedDG: Federated Domain Generalization on Medical Image Segmentation via Episodic Learning in Continuous Frequency Space.** 1013-1023
- Zikai Zhang, Bineng Zhong, Shengping Zhang, Zhenjun Tang, Xin Liu, Zhaoxiang Zhang:  
**Distractor-Aware Fast Tracking via Dynamic Convolutions and MOT Philosophy.** 1024-1033
- Sangryul Jeon, Dongbo Min, Seungryong Kim, Kwanghoon Sohn:  
**Mining Better Samples for Contrastive Learning of Temporal Correspondence.** 1034-1044



- Kunming Luo, Chuan Wang, Shuaicheng Liu , Haoqiang Fan, Jue Wang, Jian Sun:  
**UPFlow: Upsampling Pyramid for Unsupervised Optical Flow Learning.** 1045-1054
- Chengyue Gong, Dilin Wang, Meng Li, Vikas Chandra, Qiang Liu:  
**KeepAugment: A Simple Information-Preserving Data Augmentation Approach.** 1055-1064
- Shaobo Zhang, Wanqing Zhao, Ziyu Guan, Xianlin Peng, Jinye Peng:  
**Keypoint-Graph-Driven Learning Framework for Object Pose Estimation.** 1065-1073
- Qianjiang Hu , Xiao Wang, Wei Hu, Guo-Jun Qi:  
**AdCo: Adversarial Contrast for Efficient Learning of Unsupervised Representations From Self-Trained Negative Adversaries.** 1074-1083
- Yu Mitsuzumi, Go Irie, Daiki Ikami, Takashi Shibata:  
**Generalized Domain Adaptation.** 1084-1093
- Jaemin Na, Heechul Jung, Hyung Jin Chang , Wonjun Hwang :  
**FixBi: Bridging Domain Spaces for Unsupervised Domain Adaptation.** 1094-1103
- Bo Li, Yezhen Wang, Shanghang Zhang, Dongsheng Li, Kurt Keutzer, Trevor Darrell, Han Zhao:  
**Learning Invariant Representations and Risks for Semi-Supervised Domain Adaptation.** 1104-1113
- Umberto Michieli , Pietro Zanuttigh:  
**Continual Semantic Segmentation via Repulsion-Attraction of Sparse and Disentangled Latent Representations.** 1114-1124
- Ziyang Wu, Christina Baek, Chong You, Yi Ma:  
**Incremental Learning via Rate Reduction.** 1125-1133
- Mouxing Yang, Yunfan Li , Zhenyu Huang, Zitao Liu, Peng Hu, Xi Peng:  
**Partially View-Aligned Representation Learning With Noise-Robust Contrastive Loss.** 1134-1143
- Byungseok Roh, Wuhyun Shin, Ildoo Kim, Sungwoong Kim:  
**Spatially Consistent Representation Learning.** 1144-1153
- Qihang Yu, Jianming Zhang, He Zhang, Yilin Wang, Zhe Lin, Ning Xu, Yutong Bai, Alan L. Yuille:  
**Mask Guided Matting via Progressive Refinement Network.** 1154-1163
- Jamie Watson, Oisin Mac Aodha, Victor Prisacariu, Gabriel J. Brostow, Michael Firman:  
**The Temporal Opportunist: Self-Supervised Multi-Frame Monocular Depth.** 1164-1174
- Jaedong Hwang, Seoung Wug Oh, Joon-Young Lee, Bohyung Han:  
**Exemplar-Based Open-Set Panoptic Segmentation Network.** 1175-1184
- Dan Andrei Ganea, Bas Boom, Ronald Poppe:  
**Incremental Few-Shot Instance Segmentation.** 1185-1194
- Jianpeng Zhang, Yutong Xie , Yong Xia, Chunhua Shen:  
**DoDNet: Learning To Segment Multi-Organ and Tumors From Multiple Partially Labeled Datasets.** 1195-1204
- Xin Lai, Zhuotao Tian, Li Jiang , Shu Liu, Hengshuang Zhao, Liwei Wang, Jiaya Jia:  
**Semi-Supervised Semantic Segmentation With Directional Context-Aware Consistency.** 1205-1214
- Yuang Liu , Wei Zhang, Jun Wang:  
**Source-Free Domain Adaptation for Semantic Segmentation.** 1215-1224
- Lei Zhu, Qi She, Bin Zhang, Yanye Lu, Zhilin Lu, Duo Li, Jie Hu:  
**Learning the Superpixel in a Non-Iterative and Lifelong Manner.** 1225-1234
- Xinyue Huo, Lingxi Xie, Jianzhong He, Zijie Yang, Wengang Zhou, Houqiang Li, Qi Tian:  
**ATSO: Asynchronous Teacher-Student Optimization for Semi-Supervised Image Segmentation.** 1235-1244
- Bram Wallace, Ziyang Wu, Bharath Hariharan:  
**Can We Characterize Tasks Without Labels or Features?** 1245-1254
- Daniel J. Trosten , Sigurd Løkse, Robert Jenssen, Michael Kampffmeyer:  
**Reconsidering Representation Alignment for Multi-View Clustering.** 1255-1265
- Gengshan Yang, Deva Ramanan :  
**Learning To Segment Rigid Motions From Two Frames.** 1266-1275
- Ziyuan Huang , Shiwei Zhang, Jianwen Jiang, Mingqian Tang, Rong Jin, Marcelo H. Ang:  
**Self-Supervised Motion Learning From Static Images.** 1276-1285
- Haozhe Xie , Hongxun Yao, Shangchen Zhou, Shengping Zhang, Wenxiu Sun:  
**Efficient Regional Memory Network for Video Object Segmentation.** 1286-1295
- Haochen Wang, Xiaolong Jiang, Haibing Ren, Yao Hu, Song Bai:  
**SwiftNet: Real-Time Video Object Segmentation.** 1296-1305
- Jing Wang, Jinhui Tang, Mingkun Yang, Xiang Bai, Jiebo Luo :  
**Improving OCR-Based Image Captioning by Incorporating Geometrical Relationship.** 1306-1315
- Hao Zhou , Wengang Zhou, Weizhen Qi, Junfu Pu, Houqiang Li:  
**Improving Sign Language Translation With Monolingual Data by Sign Back-Translation.** 1316-1325
- Yu Wu , Yi Yang:  
**Exploring Heterogeneous Clues for Weakly-Supervised Audio-Visual Video Parsing.** 1326-1335



- Jiyong Lee , Soo-Whan Chung, Sunok Kim, Hong-Goo Kang, Kwanghoon Sohn:  
**Looking Into Your Speech: Learning Cross-Modal Affinity for Audio-Visual Speech Separation.** 1336-1345
- Sijie Song, Xudong Lin, Jiaying Liu , Zongming Guo, Shih-Fu Chang:  
**Co-Grounding Networks With Semantic Attention for Referring Expression Comprehension in Videos.** 1346-1355
- Yifeng Zhang, Ming Jiang, Qi Zhao:  
**Explicit Knowledge Incorporation for Visual Reasoning.** 1356-1365
- Shuang Xu, Jiangshe Zhang, Zixiang Zhao, Kai Sun, Junmin Liu, Chunxia Zhang:  
**Deep Gradient Projection Networks for Pan-sharpening.** 1366-1375
- Kailun Yang, Jiaming Zhang, Simon Reiß , Xinxin Hu, Rainer Stiefelhagen:  
**Capturing Omni-Range Context for Omnidirectional Segmentation.** 1376-1386
- Pei Wang, Kabir Nagrecha, Nuno Vasconcelos :  
**Gradient-Based Algorithms for Machine Teaching.** 1387-1396
- Brent A. Griffin, Jason J. Corso:  
**Depth From Camera Motion and Object Detection.** 1397-1406
- Peng Sun, Wenhui Zhang, Huanyu Wang, Songyuan Li, Xi Li:  
**Deep RGB-D Saliency Detection With Depth-Sensitive Attention and Automatic Multi-Modal Fusion.** 1407-1417
- Yuan-Ting Hu, Jiahong Wang, Raymond A. Yeh , Alexander G. Schwing:  
**SAIL-VOS 3D: A Synthetic Dataset and Baselines for Object Detection and 3D Mesh Reconstruction From Video Data.** 1418-1428
- Zerong Zheng , Tao Yu, Qionghai Dai, Yebin Liu:  
**Deep Implicit Templates for 3D Shape Representation.** 1429-1439
- Christoph Lassner, Michael Zollhöfer:  
**Pulsar: Efficient Sphere-Based Neural Rendering.** 1440-1449
- Aljaz Bozic, Pablo R. Palafox, Michael Zollhöfer, Justus Thies, Angela Dai, Matthias Nießner:  
**Neural Deformation Graphs for Globally-Consistent Non-Rigid Reconstruction.** 1450-1459
- Praveen Tirupattur , Kevin Duarte, Yogesh S. Rawat, Mubarak Shah :  
**Modeling Multi-Label Action Dependencies for Temporal Action Localization.** 1460-1470
- Patrick Grady, Chengcheng Tang, Christopher D. Twigg, Minh Vo, Samarth Brahmbhatt, Charles C. Kemp:  
**ContactOpt: Optimizing Contact To Improve Grasps.** 1471-1481
- Chen Li, Gim Hee Lee:  
**From Synthetic to Real: Unsupervised Domain Adaptation for Animal Pose Estimation.** 1482-1491
- Xin Deng, Wenzhe Yang, Ren Yang , Mai Xu, Enpeng Liu, Qianhan Feng , Radu Timofte :  
**Deep Homography for Efficient Stereo Image Compression.** 1492-1501
- Zhihao Hu, Guo Lu, Dong Xu:  
**FVC: A New Framework Towards Deep Video Compression in Feature Space.** 1502-1511
- Yuang Liu , Wei Zhang, Jun Wang:  
**Zero-Shot Adversarial Quantization.** 1512-1521
- Xudong Tian, Zhizhong Zhang, Shaohui Lin, Yanyun Qu, Yuan Xie, Lizhuang Ma:  
**Farewell to Mutual Information: Variational Distillation for Cross-Modal Person Re-Identification.** 1522-1531
- Yujun Shen, Bolei Zhou:  
**Closed-Form Factorization of Latent Semantics in GANs.** 1532-1540
- Moritz Kappel, Vladislav Golyanik, Mohamed Elgharib, Jann-Ole Henningson, Hans-Peter Seidel, Susana Castillo , Christian Theobalt , Marcus A. Magnor :  
**High-Fidelity Neural Human Motion Transfer From Monocular Video.** 1541-1550
- Mark Collier, Basil Mustafa, Efi Kokiopoulou, Rodolphe Jenatton, Jesse Berent:  
**Correlated Input-Dependent Label Noise in Large-Scale Image Classification.** 1551-1560
- Junfu Wang , Yunhong Wang, Zhen Yang, Liang Yang, Yuanfang Guo:  
**Bi-GCN: Binary Graph Convolutional Network.** 1561-1570
- Ning Wang, Wengang Zhou, Jie Wang, Houqiang Li:  
**Transformer Meets Tracker: Exploiting Temporal Context for Robust Visual Tracking.** 1571-1580
- Wei Chen, Xi Jia, Hyung Jin Chang , Jinming Duan , Linlin Shen, Ales Leonardis:  
**FS-Net: Fast Shape-Based Network for Category-Level 6D Object Pose Estimation With Decoupled Rotation Mechanism.** 1581-1590
- Christian Simon, Piotr Koniusz, Mehrtash Harandi:  
**On Learning the Geodesic Path for Incremental Learning.** 1591-1600
- Zhigang Dai, Bolun Cai , Yugeng Lin, Junying Chen:  
**UP-DETR: Unsupervised Pre-Training for Object Detection With Transformers.** 1601-1610
- Johannes Kopf, Xuejian Rong, Jia-Bin Huang:  
**Robust Consistent Video Depth Estimation.** 1611-1621



- Tianfei Zhou, Wenguan Wang , Si Liu, Yi Yang, Luc Van Gool:  
**Differentiable Multi-Granularity Human Representation Learning for Instance-Aware Human Semantic Parsing.** 1622-1631
- Erik Franz, Barbara Solenthaler, Nils Thuerey:  
**Global Transport for Fluid Reconstruction With Learned Self-Supervision.** 1632-1642
- Yicong Hong, Qi Wu, Yuankai Qi , Cristian Rodriguez Opazo, Stephen Gould:  
**VLN BERT: A Recurrent Vision-and-Language BERT for Navigation.** 1643-1653
- Yann Labb  , Justin Carpentier, Mathieu Aubry, Josef Sivic:  
**Single-View Robot Pose and Joint Angle Estimation via Render & Compare.** 1654-1663
- Jiacheng Cheng , Nuno Vasconcelos :  
**Learning Deep Classifiers Consistent With Fine-Grained Novelty Detection.** 1664-1673
- Noranart Vesdapunt, Baoyuan Wang:  
**CRFace: Confidence Ranker for Model-Agnostic Face Detection Refinement.** 1674-1684
- Jingru Tan, Xin Lu, Gang Zhang, Changqing Yin, Quanquan Li:  
**Equalization Loss v2: A New Gradient Balance Approach for Long-Tailed Object Detection.** 1685-1694
- Wei Feng, Fei Yin, Xu-Yao Zhang, Cheng-Lin Liu:  
**Semantic-Aware Video Text Detection.** 1695-1705
- Mohamed Sayed , Gabriel J. Brostow:  
**Improved Handling of Motion Blur in Online Object Detection.** 1706-1716
- Yuchen Ma, Songtao Liu, Zeming Li, Jian Sun:  
**IQDet: Instance-Wise Quality Distribution Sampling for Object Detection.** 1717-1725
- Zhengzhe Liu, Xiaojuan Qi, Chi-Wing Fu:  
**One Thing One Click: A Self-Training Approach for Weakly Supervised 3D Semantic Segmentation.** 1726-1736
- Filippos Kokkinos, Iasonas Kokkinos:  
**Learning Monocular 3D Reconstruction of Articulated Categories From Motion.** 1737-1746
- Angela Dai, Yawar Siddiqui, Justus Thies, Julien Valentin, Matthias Nie  ner:  
**SPSG: Self-Supervised Photometric Scene Generation From RGB-D Scans.** 1747-1756
- Shi Qiu , Saeed Anwar, Nick Barnes:  
**Semantic Segmentation for Real Point Cloud Scenes via Bilateral Augmentation and Adaptive Fusion.** 1757-1767
- Junzhe Zhang, Xinyi Chen, Zhongang Cai, Liang Pan , Haiyu Zhao, Shuai Yi, Chai Kiat Yeo, Bo Dai, Chen Change Loy:  
**Unsupervised 3D Shape Completion Through GAN Inversion.** 1768-1777
- Shengheng Deng, Xun Xu, Chaozheng Wu, Ke Chen, Kui Jia:  
**3D AffordanceNet: A Benchmark for Visual Object Affordance Understanding.** 1778-1787
- Shi-Lin Liu, Hao-Xiang Guo, Hao Pan, Peng-Shuai Wang, Xin Tong , Yang Liu :  
**Deep Implicit Moving Least-Squares Functions for 3D Reconstruction.** 1788-1797
- Stefan Stojanov, Anh Thai, James M. Rehg:  
**Using Shape To Categorize: Low-Shot Learning With an Explicit Shape Bias.** 1798-1808
- Marcel Geppert, Viktor Larsson, Pablo Speciale, Johannes L. Sch  nberger, Marc Pollefeys :  
**Privacy Preserving Localization and Mapping From Uncalibrated Cameras.** 1809-1819
- Feitong Tan, Danhang Tang , Mingsong Dou, Kaiwen Guo, Rohit Pandey, Cem Keskin, Ruofei Du, Deqing Sun, Sofien Bouaziz, Sean Ryan Fanello, Ping Tan, Yinda Zhang:  
**HumanGPS: Geodesic PreServing Feature for Dense Human Correspondences.** 1820-1830
- Shitao Tang, Chengzhou Tang, Rui Huang, Siyu Zhu, Ping Tan:  
**Learning Camera Localization via Dense Scene Matching.** 1831-1841
- Liu Liu, Hongdong Li, Haodong Yao, Ruyi Zha:  
**PluckerNet: Learn To Register 3D Line Reconstructions.** 1842-1852
- Luca Magri, Filippo Leveni , Giacomo Boracchi :  
**MultiLink: Multi-Class Structure Recovery via Agglomerative Clustering and Model Selection.** 1853-1862
- Zetong Yang, Yin Zhou, Zhifeng Chen, Jiquan Ngiam:  
**3D-MAN: 3D Multi-Frame Attention Network for Object Detection.** 1863-1872
- Shichao Li , Zengqiang Yan, Hongyang Li, Kwang-Ting Cheng :  
**Exploring intermediate representation for monocular vehicle pose estimation.** 1873-1883
- Chao-Yuan Wu, Philipp Kr  henb  hl:  
**Towards Long-Form Video Understanding.** 1884-1894
- Limin Wang, Zhan Tong, Bin Ji, Gangshan Wu:  
**TDN: Temporal Difference Networks for Efficient Action Recognition.** 1895-1904
- Xiang Wang , Shiwei Zhang, Zhiwu Qing, Yuanjie Shao, Changxin Gao, Nong Sang:  
**Self-Supervised Learning for Semi-Supervised Temporal Action Proposal.** 1905-1914
- Mingfei Gao, Yingbo Zhou, Ran Xu, Richard Socher, Caiming Xiong:  
**WOAD: Weakly Supervised Online Action Detection in Untrimmed Videos.** 1915-1923



- Xiaosen Wang, Kun He:  
**Enhancing the Transferability of Adversarial Attacks Through Variance Tuning.** 1924-1933
- Yanru Xiao, Cong Wang:  
**You See What I Want You To See: Exploring Targeted Black-Box Transferability Attack for Hash-Based Image Retrieval Systems.** 1934-1943
- Ke Li, Shijie Wang, Xiang Zhang, Yifan Xu, Weijian Xu, Zhuowen Tu:  
**Pose Recognition With Cascade Transformers.** 1944-1953
- Kevin Lin , Lijuan Wang, Zicheng Liu:  
**End-to-End Human Pose and Mesh Reconstruction with Transformers.** 1954-1963
- Hongsuk Choi, Gyeongsik Moon, Ju Yong Chang, Kyoung Mu Lee:  
**Beyond Static Features for Temporally Consistent 3D Human Pose and Shape From a Video.** 1964-1973
- Jia Wan , Ziquan Liu , Antoni B. Chan :  
**A Generalized Loss Function for Crowd Counting and Localization.** 1974-1983
- Rohit Saha, Brendan Duke, Florian Shkurti, Graham W. Taylor, Parham Aarabi:  
**LOHO: Latent Optimization of Hairstyles via Orthogonalization.** 1984-1993
- Guoli Wang, Jiaqi Ma, Qian Zhang, Jiwen Lu , Jie Zhou:  
**Pseudo Facial Generation With Extreme Poses for Face Recognition.** 1994-2003
- Hao Chen, Yaohui Wang, Benoit Lagadec, Antitza Dantcheva, François Brémond:  
**Joint Generative and Contrastive Learning for Unsupervised Person Re-Identification.** 2004-2013
- Ruibing Hou, Hong Chang, Bingpeng Ma, Rui Huang, Shiguang Shan:  
**BiCnet-TKS: Learning Efficient Spatial-Temporal Representation for Video Person Re-Identification.** 2014-2023
- Yunhao Zou, Yinqiang Zheng , Tsuyoshi Takatani, Ying Fu:  
**Learning To Reconstruct High Speed and High Dynamic Range Videos From Events.** 2024-2033
- Junyong Lee , Hyeongseok Son , Jaesung Rim, Sunghyun Cho, Seungyong Lee:  
**Iterative Filter Adaptive Network for Single Image Defocus Deblurring.** 2034-2042
- Tongyao Pang, Huan Zheng, Yuhui Quan, Hui Ji :  
**Recorrupted-to-Recorrupted: Unsupervised Deep Learning for Image Denoising.** 2043-2052
- Yuntong Ye, Yi Chang, Hanyu Zhou, Luxin Yan:  
**Closing the Loop: Joint Rain Generation and Removal via Disentangled Image Translation.** 2053-2062
- Zhihao Xia, Michaël Gharbi, Federico Perazzi, Kalyan Sunkavalli, Ayan Chakrabarti:  
**Deep Denoising of Flash and No-Flash Pairs for Photography in Low-Light Environments.** 2063-2072
- Kinam Kwon, Eunhee Kang, Sangwon Lee, Su-Jin Lee, Hyong-Euk Lee, ByungIn Yoo, Jae-Joon Han:  
**Controllable Image Restoration for Under-Display Camera in Smartphones.** 2073-2082
- Zhengjue Wang, Hao Zhang, Ziheng Cheng, Bo Chen, Xin Yuan:  
**MetaSCI: Scalable and Adaptive Reconstruction for Video Compressive Sensing.** 2083-2092
- Zheng Hui , Jie Li, Xiumei Wang , Xinbo Gao:  
**Learning the Non-Differentiable Optimization for Blind Super-Resolution.** 2093-2102
- Yuming Jiang , Kelvin C. K. Chan, Xintao Wang, Chen Change Loy, Ziwei Liu:  
**Robust Reference-Based Super-Resolution via C2-Matching.** 2103-2112
- Zeyu Xiao, Xueyang Fu , Jie Huang, Zhen Cheng, Zhiwei Xiong:  
**Space-Time Distillation for Video Super-Resolution.** 2113-2122
- Yan Bai, Jile Jiao, Ce Wang, Jun Liu, Yihang Lou, Xuetao Feng, Ling-Yu Duan:  
**Person30K: A Dual-Meta Generalization Network for Person Re-Identification.** 2123-2132
- Steve Cruz, Will Hutchcroft, Yuguang Li, Naji Khosravan, Ivaylo Boyadzhiev, Sing Bing Kang:  
**Zillow Indoor Dataset: Annotated Floor Plans With 360deg Panoramas and 3D Room Layouts.** 2133-2143
- Yawei Li , Wen Li, Martin Danelljan, Kai Zhang , Shuhang Gu, Luc Van Gool, Radu Timofte :  
**The Heterogeneity Hypothesis: Finding Layer-Wise Differentiated Network Architectures.** 2144-2153
- Jianyuan Guo , Kai Han, Yunhe Wang, Han Wu, Xinghao Chen , Chunjing Xu, Chang Xu :  
**Distilling Object Detectors via Decoupled Features.** 2154-2164
- Zhiqiang Shen, Zechun Liu, Jie Qin, Lei Huang, Kwang-Ting Cheng , Marios Savvides:  
**S2-BNN: Bridging the Gap Between Self-Supervised Real and 1-Bit Neural Networks via Guided Distribution Calibration.** 2165-2174
- Xiu Su, Shan You, Fei Wang, Chen Qian, Changshui Zhang, Chang Xu :  
**BCNet: Searching for Network Width With Bilaterally Coupled Network.** 2175-2184
- Hanqing Zhao, Wenbo Zhou, Dongdong Chen, Tianyi Wei, Weiming Zhang, Nenghai Yu:  
**Multi-Attentional Deepfake Detection.** 2185-2194
- Yunhao Ge, Yao Xiao , Zhi Xu, Meng Zheng, Srikrishna Karanam, Terrence Chen, Laurent Itti, Ziyan Wu:  
**A Peek Into the Reasoning of Neural Networks: Interpreting With Structural Visual Concepts.** 2195-2204
- Jinyu Tian, Jiantao Zhou, Jia Duan :  
**Probabilistic Selective Encryption of Convolutional Neural Networks for Hierarchical Services.** 2205-2214



- Yawen Zeng, Da Cao, Xiaochi Wei, Meng Liu, Zhou Zhao, Zheng Qin:  
**Multi-Modal Relational Graph for Cross-Modal Video Moment Retrieval.** 2215-2224
- Jianan Zhao, Fengliang Qi, Guangyu Ren, Lin Xu:  
**PhD Learning: Learning With Pompeiu-Hausdorff Distances for Video-Based Vehicle Re-Identification.** 2225-2235
- Linsen Song, Wayne Wu, Chaoyou Fu, Chen Qian, Chen Change Loy, Ran He:  
**Pareidolia Face Reenactment.** 2236-2245
- Mengyao Zhai, Lei Chen, Greg Mori:  
**Hyper-LifelongGAN: Scalable Lifelong Learning for Image Conditioned Generation.** 2246-2255
- Weihao Xia, Yujiu Yang , Jing-Hao Xue, Baoyuan Wu:  
**TediGAN: Text-Guided Diverse Face Image Generation and Manipulation.** 2256-2265
- Yuqian Zhou, Connelly Barnes, Eli Shechtman, Sohrab Amirghods:  
**TransFill: Reference-Guided Image Inpainting by Merging Multiple Color and Spatial Transformations.** 2266-2276
- Hao Su, Jianwei Niu, Xuefeng Liu, Qingfeng Li, Ji Wan, Mingliang Xu, Tao Ren:  
**ArtCoder: An End-to-End Method for Generating Scanning-Robust Stylized QR Codes.** 2277-2286
- Elad Richardson, Yuval Alaluf, Or Patashnik, Yotam Nitzan, Yaniv Azar, Stav Shapiro, Daniel Cohen-Or:  
**Encoding in Style: A StyleGAN Encoder for Image-to-Image Translation.** 2287-2296
- Zhichao Huang, Xintong Han, Jia Xu, Tong Zhang:  
**Few-Shot Human Motion Transfer by Personalized Geometry and Texture Modeling.** 2297-2306
- Richard Strong Bowen, Huiwen Chang, Charles Herrmann, Piotr Teterwak, Ce Liu, Ramin Zabih:  
**OCONet: Image Extrapolation by Object Completion.** 2307-2317
- Bohan Wu, Suraj Nair, Roberto Martín-Martín, Li Fei-Fei, Chelsea Finn :  
**Greedy Hierarchical Variational Autoencoders for Large-Scale Video Prediction.** 2318-2328
- Shixiang Tang, Dapeng Chen, Lei Bai , Kaijian Liu, Yixiao Ge, Wanli Ouyang:  
**Mutual CRF-GNN for Few-Shot Learning.** 2329-2339
- Sangdoo Yun, Seong Joon Oh, Byeongho Heo, Dongyoon Han, Junsuk Choe , Sanghyuk Chun:  
**Re-Labeling ImageNet: From Single to Multi-Labels, From Global to Localized Labels.** 2340-2350
- Jean-Baptiste Cordonnier, Aravindh Mahendran, Alexey Dosovitskiy, Dirk Weissenborn, Jakob Uszkoreit, Thomas Unterthiner :  
**Differentiable Patch Selection for Image Recognition.** 2351-2360
- Songyang Zhang, Zeming Li, Shipeng Yan, Xuming He, Jian Sun:  
**Distribution Alignment: A Unified Framework for Long-Tail Visual Recognition.** 2361-2370
- Zongyan Han , Zhenyong Fu, Shuo Chen, Jian Yang:  
**Contrastive Embedding for Generalized Zero-Shot Learning.** 2371-2381
- Xu Cao, Boxin Shi, Fumio Okura, Yasuyuki Matsushita :  
**Normal Integration via Inverse Plane Fitting With Minimum Point-to-Plane Distance.** 2382-2391
- Yufei Cui , Ziquan Liu , Qiao Li , Antoni B. Chan , Chun Jason Xue:  
**Bayesian Nested Neural Networks for Uncertainty Calibration and Adaptive Compression.** 2392-2401
- Tien-Ju Yang, Yi-Lun Liao, Vivienne Sze:  
**NetAdaptV2: Efficient Neural Architecture Search With Fast Super-Network Training and Architecture Optimization.** 2402-2411
- Baptiste Angles, Yuhe Jin, Simon Kornblith, Andrea Tagliasacchi, Kwang Moo Yi:  
**MIST: Multiple Instance Spatial Transformer.** 2412-2422
- Pengfei Guo, Puyang Wang, Jinyuan Zhou, Shanshan Jiang, Vishal M. Patel:  
**Multi-Institutional Collaborations for Improving Deep Learning-Based Magnetic Resonance Image Reconstruction Using Federated Learning.** 2423-2432
- Zhanyu Wang, Luping Zhou , Lei Wang, Xiu Li:  
**A Self-Boosting Framework for Automated Radiographic Report Generation.** 2433-2442
- Peng Dai, Renliang Weng, Wongun Choi, Changshui Zhang, Zhangping He, Wei Ding:  
**Learning a Proposal Classifier for Multiple Object Tracking.** 2443-2452
- Linyu Zheng, Ming Tang, Yingying Chen, Guibo Zhu, Jinqiao Wang, Hanqing Lu:  
**Improving Multiple Object Tracking With Single Object Tracking.** 2453-2462
- Cheng Chi, Qingjie Wang, Tianyu Hao, Peng Guo, Xin Yang:  
**Feature-Level Collaboration: Joint Unsupervised Learning of Optical Flow, Stereo Depth and Camera Motion.** 2463-2473
- Chengyue Gong, Tongzheng Ren, Mao Ye, Qiang Liu:  
**MaxUp: Lightweight Adversarial Training With Data Augmentation Improves Neural Network Training.** 2474-2483
- Luca Schmidtke, Athanasios Vlontzos, Simon Ellershaw , Anna Lukens, Tomoki Arichi, Bernhard Kainz :  
**Unsupervised Human Pose Estimation Through Transforming Shape Templates.** 2484-2494
- Feng Wang, Huaping Liu:  
**Understanding the Behaviour of Contrastive Loss.** 2495-2504



- Jichang Li, Guanbin Li, Yemin Shi, Yizhou Yu:  
**Cross-Domain Adaptive Clustering for Semi-Supervised Domain Adaptation.** 2505-2514
- Qing Yu, Atsushi Hashimoto, Yoshitaka Ushiku:  
**Divergence Optimization for Noisy Universal Domain Adaptation.** 2515-2524
- Collin Burns, Jacob Steinhardt:  
**Limitations of Post-Hoc Feature Alignment for Robustness.** 2525-2533
- Ali Cheraghian, Shafin Rahman , Pengfei Fang, Soumava Kumar Roy, Lars Petersson , Mehrtash Harandi:  
**Semantic-Aware Knowledge Distillation for Few-Shot Class-Incremental Learning.** 2534-2543
- Yaoyao Liu , Bernt Schiele , Qianru Sun:  
**Adaptive Aggregation Networks for Class-Incremental Learning.** 2544-2553
- Fengmao Lv, Xiang Chen, Yanyong Huang, Lixin Duan, Guosheng Lin:  
**Progressive Modality Reinforcement for Human Multimodal Emotion Recognition From Unaligned Multimodal Sequences.** 2554-2562
- Guangting Wang, Yizhou Zhou, Chong Luo, Wenxuan Xie, Wenjun Zeng , Zhiwei Xiong:  
**Unsupervised Visual Representation Learning by Tracking Patches in Video.** 2563-2572
- Cheng Sun, Min Sun, Hwann-Tzong Chen:  
**HoHoNet: 360 Indoor Holistic Understanding With Latent Horizontal Features.** 2573-2582
- Saif Muhammad Imran, Xiaoming Liu, Daniel Morris :  
**Depth Completion With Twin Surface Extrapolation at Occlusion Boundaries.** 2583-2592
- Ye Zheng, Jiahong Wu, Yongqiang Qin, Faen Zhang, Li Cui:  
**Zero-Shot Instance Segmentation.** 2593-2602
- Zhenzhen Weng , Mehmet Giray Ogut, Shai Limonchik, Serena Yeung :  
**Unsupervised Discovery of the Long-Tail in Instance Segmentation Using Hierarchical Self-Supervision.** 2603-2612
- Xiaokang Chen, Yuhui Yuan, Gang Zeng, Jingdong Wang:  
**Semi-Supervised Semantic Segmentation With Cross Pseudo Supervision.** 2613-2622
- Yazhou Yao, Tao Chen, Guo-Sen Xie, Chuanyi Zhang, Fumin Shen, Qi Wu, Zhenmin Tang, Jian Zhang :  
**Non-Salient Region Object Mining for Weakly Supervised Semantic Segmentation.** 2623-2632
- Qiang Zhang, Shenlu Zhao , Yongjiang Luo, Dingwen Zhang, Nianchang Huang, Jungong Han:  
**ABMDRNet: Adaptive-Weighted Bi-Directional Modality Difference Reduction Network for RGB-T Semantic Segmentation.** 2633-2642
- Jungbeom Lee, Jihun Yi, Chaehun Shin, Sungroh Yoon:  
**BBAM: Bounding Box Attribution Map for Weakly Supervised Semantic and Instance Segmentation.** 2643-2652
- Jianyuan Guo , Kai Han, Han Wu, Chao Zhang, Xinghao Chen , Chunjing Xu, Chang Xu , Yunhe Wang:  
**Positive-Unlabeled Data Purification in the Wild for Object Detection.** 2653-2662
- Yandong Li, Xuhui Jia, Ruoxin Sang, Yukun Zhu, Bradley Green, Liqiang Wang, Boqing Gong:  
**Ranking Neural Checkpoints.** 2663-2673
- Colorado J. Reed, Sean Metzger, Aravind Srinivas, Trevor Darrell, Kurt Keutzer:  
**SelfAugment: Automatic Augmentation Policies for Self-Supervised Learning.** 2674-2683
- Junhwa Hur, Stefan Roth:  
**Self-Supervised Multi-Frame Monocular Scene Flow.** 2684-2694
- Amirhossein Habibian, Davide Abati, Taco S. Cohen, Babak Ehteshami Bejnordi:  
**Skip-Convolutions for Efficient Video Processing.** 2695-2704
- Sanghyun Woo, Dahun Kim, Joon-Young Lee, In So Kweon:  
**Learning To Associate Every Segment for Video Panoptic Segmentation.** 2705-2714
- Zhihao Chen, Liang Wan, Lei Zhu, Jia Shen, Huazhu Fu , Wennan Liu, Jing Qin:  
**Triple-Cooperative Video Shadow Detection.** 2715-2724
- Mehrdad Hosseinzadeh, Yang Wang:  
**Image Change Captioning by Learning From an Auxiliary Task.** 2725-2734
- Amanda Cardoso Duarte , Shruti Palaskar, Lucas Ventura, Deepti Ghadiyaram, Kenneth DeHaan, Florian Metze, Jordi Torres, Xavier Giró-i-Nieto:  
**How2Sign: A Large-Scale Multimodal Dataset for Continuous American Sign Language.** 2735-2744
- Yapeng Tian, Di Hu, Chenliang Xu:  
**Cyclic Co-Learning of Sounding Object Visual Grounding and Sound Separation.** 2745-2754
- Avisek Lahiri, Vivek Kwatra, Christian Früh, John Lewis, Chris Bregler:  
**LipSync3D: Data-Efficient Learning of Personalized 3D Talking Faces From Video Using Pose and Lighting Normalization.** 2755-2764
- Guoshun Nan, Rui Qiao , Yao Xiao, Jun Liu, Sicong Leng, Hao Zhang , Wei Lu :  
**Interventional Video Grounding With Dual Contrastive Learning.** 2765-2775
- Corentin Kervadec, Grigory Antipov, Moez Baccouche, Christian Wolf:  
**Roses Are Red, Violets Are Blue... but Should VQA Expect Them To?** 2776-2785



- Jiaming Han, Jian Ding, Nan Xue, Gui-Song Xia :  
**ReDet: A Rotation-Equivariant Detector for Aerial Object Detection.** 2786-2795
- Yiming Qian, Hao Zhang, Yasutaka Furukawa:  
**Roof-GAN: Learning To Generate Roof Geometry and Relations for Residential Houses.** 2796-2805
- Tal Reiss, Niv Cohen, Liron Bergman, Yedid Hoshen:  
**PANDA: Adapting Pretrained Features for Anomaly Detection and Segmentation.** 2806-2814
- Péter Karkus, Shaojun Cai, David Hsu:  
**Differentiable SLAM-Net: Learning Particle SLAM for Visual Navigation.** 2815-2825
- Yanchao Yang, Brian Lai, Stefano Soatto:  
**DyStaB: Unsupervised Object Segmentation via Dynamic-Static Bootstrapping.** 2826-2836
- Shitong Luo, Wei Hu:  
**Diffusion Probabilistic Models for 3D Point Cloud Generation.** 2837-2845
- Matthew Tancik, Ben Mildenhall, Terrance Wang, Divi Schmidt, Pratul P. Srinivasan, Jonathan T. Barron, Ren Ng:  
**Learned Initializations for Optimizing Coordinate-Based Neural Representations.** 2846-2855
- Julian Ost, Fahim Mannan, Nils Thuerey, Julian Knodt, Felix Heide:  
**Neural Scene Graphs for Dynamic Scenes.** 2856-2865
- Ruwan B. Tennakoon , David Suter , Erchuan Zhang , Tat-Jun Chin, Alireza Bab-Hadiashar:  
**Consensus Maximisation Using Influences of Monotone Boolean Functions.** 2866-2875
- Jennifer J. Sun, Ann Kennedy, Eric Zhan, David J. Anderson, Yisong Yue, Pietro Perona:  
**Task Programming: Learning Data Efficient Behavior Representations.** 2876-2885
- Shunsuke Saito, Jinlong Yang, Qianli Ma, Michael J. Black:  
**SCANimate: Weakly Supervised Learning of Skinned Clothed Avatar Networks.** 2886-2897
- Yulin Li, Jianfeng He, Tianzhu Zhang, Xiang Liu, Yongdong Zhang, Feng Wu:  
**Diverse Part Discovery: Occluded Person Re-Identification With Part-Aware Transformer.** 2898-2907
- Yuval Bahat, Tomer Michaeli:  
**What's in the Image? Explorable Decoding of Compressed Images.** 2908-2917
- Golnaz Ghiasi, Yin Cui, Aravind Srinivas, Rui Qian, Tsung-Yi Lin, Ekin D. Cubuk, Quoc V. Le, Barret Zoph:  
**Simple Copy-Paste Is a Strong Data Augmentation Method for Instance Segmentation.** 2918-2928
- Xiangyu Zhu, Hao Wang , Hongyan Fei , Zhen Lei, Stan Z. Li:  
**Face Forgery Detection by 3D Decomposition.** 2929-2939
- Juhong Min, Minsu Cho:  
**Convolutional Hough Matching Networks.** 2940-2950
- Guoxing Yang, Nanyi Fei, Mingyu Ding, Guangzhen Liu, Zhiwu Lu, Tao Xiang:  
**L2M-GAN: Learning To Manipulate Latent Space Semantics for Facial Attribute Editing.** 2951-2960
- Zilong Zheng, Jianwen Xie, Ping Li:  
**Patchwise Generative ConvNet: Training Energy-Based Models From a Single Natural Image for Internal Learning.** 2961-2970
- Radek Mackowiak, Lynton Ardizzone, Ullrich Köthe, Carsten Rother:  
**Generative Classifiers as a Basis for Trustworthy Image Classification.** 2971-2981
- Mingyu Ding, Xiaochen Lian, Linjie Yang, Peng Wang, Xiaojie Jin, Zhiwu Lu, Ping Luo:  
**HR-NAS: Searching Efficient High-Resolution Neural Architectures With Lightweight Transformers.** 2982-2992
- Qiangqiang Wu , Jia Wan , Antoni B. Chan :  
**Progressive Unsupervised Learning for Visual Object Tracking.** 2993-3002
- Yisheng He, Haibin Huang, Haoqiang Fan, Qifeng Chen, Jian Sun:  
**FFB6D: A Full Flow Bidirectional Fusion Network for 6D Pose Estimation.** 3003-3013
- Shipeng Yan, Jiangwei Xie, Xuming He:  
**DER: Dynamically Expandable Representation for Class Incremental Learning.** 3014-3023
- Xinlong Wang, Rufeng Zhang, Chunhua Shen, Tao Kong, Lei Li:  
**Dense Contrastive Learning for Self-Supervised Visual Pre-Training.** 3024-3033
- Xiaotian Chen, Yuwang Wang, Xuejin Chen, Wenjun Zeng :  
**S2R-DepthNet: Learning a Generalizable Depth-Specific Structural Representation.** 3034-3043
- Haiyang Mei, Bo Dong, Wen Dong, Pieter Peers, Xin Yang, Qiang Zhang , Xiaopeng Wei:  
**Depth-Aware Mirror Segmentation.** 3044-3053
- Sangmin Lee , Hak Gu Kim, Dae Hwi Choi, Hyung-Il Kim , Yong Man Ro :  
**Video Prediction Recalling Long-Term Motion Context via Memory Alignment Learning.** 3054-3063
- Chen Gao, Jinyu Chen, Si Liu, Luting Wang , Qiong Zhang, Qi Wu:  
**Room-and-Object Aware Knowledge Reasoning for Remote Embodied Referring Expression.** 3064-3073
- Cheol-Hui Min, Jinseok Bae, Junho Lee, Young Min Kim:  
**GATSBI: Generative Agent-Centric Spatio-Temporal Object Interaction.** 3074-3083



- Peleg Harel, Ohad Ben-Shahar:  
**Crossing Cuts Polygonal Puzzles: Models and Solvers.** 3084-3093
- Aoxue Li, Zhenguo Li:  
**Transformation Invariant Few-Shot Object Detection.** 3094-3102
- Tong Wang, Yousong Zhu, Chaoyang Zhao, Wei Zeng , Jinqiao Wang, Ming Tang:  
**Adaptive Class Suppression Loss for Long-Tail Object Detection.** 3103-3112
- Jeonghun Baek, Yusuke Matsui, Kiyoharu Aizawa:  
**What if We Only Use Real Datasets for Scene Text Recognition? Toward Scene Text Recognition With Fewer Labels.** 3113-3122
- Yiqin Zhu, Jianyong Chen, Lingyu Liang, Zhanghui Kuang, Lianwen Jin, Wayne Zhang :  
**Fourier Contour Embedding for Arbitrary-Shaped Text Detection.** 3123-3131
- Yihe Tang, Weifeng Chen, Yijun Luo, Yuting Zhang:  
**Humble Teachers Teach Better Students for Semi-Supervised Object Detection.** 3132-3141
- Longlong Jing, Elahe Vahdani, Jiaxing Tan, Yingli Tian :  
**Cross-Modal Center Loss for 3D Cross-Modal Retrieval.** 3142-3151
- Shuo Yang, Min Xu, Haozhe Xie , Stuart W. Perry , Jiahao Xia:  
**Single-View 3D Object Reconstruction From Shape Priors in Memory.** 3152-3161
- Silvan Weder, Johannes L. Schönberger, Marc Pollefeys , Martin R. Oswald:  
**NeuralFusion: Online Depth Fusion in Latent Space.** 3162-3172
- Mutian Xu, Runyu Ding, Hengshuang Zhao, Xiaojuan Qi:  
**PAConv: Position Adaptive Convolution With Dynamic Kernel Assembling on Point Clouds.** 3173-3182
- Chenxu Luo, Xiaodong Yang, Alan L. Yuille:  
**Self-Supervised Pillar Motion Learning for Autonomous Driving.** 3183-3192
- Dave Zhenyu Chen, Ali Gholami, Matthias Nießner, Angel X. Chang:  
**Scan2Cap: Context-Aware Dense Captioning in RGB-D Scans.** 3193-3203
- Despoina Paschalidou, Angelos Katharopoulos, Andreas Geiger, Sanja Fidler:  
**Neural Parts: Learning Expressive 3D Shape Abstractions With Invertible Neural Networks.** 3204-3215
- Arianna Rampini, Franco Pestarini, Luca Cosmo , Simone Melzi, Emanuele Rodolà:  
**Universal Spectral Adversarial Attacks for Deformable Shapes.** 3216-3226
- Donghwan Lee, Soo-Hyun Ryu, Suyong Yeon, Yonghan Lee, Deokhwa Kim, Cheolho Han, Yohann Cabon, Philippe Weinzaepfel, Nicolas Guérin, Gabriela Csurka, Martin Humenberger:  
**Large-Scale Localization Datasets in Crowded Indoor Spaces.** 3227-3236
- Yuan Liu, Lingjie Liu, Cheng Lin, Zhen Dong, Wenping Wang:  
**Learnable Motion Coherence for Correspondence Pruning.** 3237-3246
- Paul-Edouard Sarlin, Ajaykumar Unagar , Måns Larsson, Hugo Germain, Carl Toft, Viktor Larsson, Marc Pollefeys , Vincent Lepetit, Lars Hammarstrand, Fredrik Kahl, Torsten Sattler:  
**Back to the Feature: Learning Robust Camera Localization From Pixels To Pose.** 3247-3257
- Kefan Chen, Noah Snavely, Ameesh Makadia:  
**Wide-Baseline Relative Camera Pose Estimation With Directional Learning.** 3258-3268
- Mingyue Yang, Yuxin Wen , Weikai Chen, Yongwei Chen, Kui Jia:  
**Deep Optimized Priors for 3D Shape Modeling and Reconstruction.** 3269-3278
- Zhenwei Miao, Jikai Chen, Hongyu Pan, Ruiwen Zhang, Kaixuan Liu, Peihan Hao, Jun Zhu, Yang Wang, Xin Zhan:  
**PVGNet: A Bottom-Up One-Stage 3D Object Detector With Integrated Multi-Level Features.** 3279-3288
- Yunpeng Zhang, Jiwen Lu , Jie Zhou:  
**Objects Are Different: Flexible Monocular 3D Object Detection.** 3289-3298
- Christoph Feichtenhofer, Haoqi Fan, Bo Xiong, Ross B. Girshick, Kaiming He:  
**A Large-Scale Study on Unsupervised Spatiotemporal Representation Learning.** 3299-3309
- Dong Li, Zhaofan Qiu, Yingwei Pan, Ting Yao, Houqiang Li, Tao Mei:  
**Representing Videos As Discriminative Sub-Graphs for Action Recognition.** 3310-3319
- Chuming Lin, Chengming Xu, Donghao Luo, Yabiao Wang , Ying Tai , Chengjie Wang, Jilin Li, Feiyue Huang, Yanwei Fu :  
**Learning Salient Boundary Feature for Anchor-free Temporal Action Localization.** 3320-3329
- Xiaodan Li, Jinfeng Li, Yuefeng Chen, Shaokai Ye, Yuan He, Shuhui Wang, Hang Su, Hui Xue:  
**QAIR: Practical Query-Efficient Black-Box Attacks for Image Retrieval.** 3330-3339
- Karren Yang, Wan-Yi Lin, Manash Barman, Filipe Condessa, J. Zico Kolter:  
**Defending Multimodal Fusion Models Against Single-Source Adversaries.** 3340-3349
- Chengchao Shen, Youtan Yin, Xinchao Wang , Xubin Li, Jie Song, Mingli Song:  
**Training Generative Adversarial Networks in One Stage.** 3350-3360
- Mallikarjun B. R., Ayush Tewari, Hans-Peter Seidel, Mohamed Elgarib, Christian Theobalt :  
**Learning Complete 3D Morphable Face Models From Images and Videos.** 3361-3371



- Yan Zhang, Michael J. Black, Siyu Tang : **We Are More Than Our Joints: Predicting How 3D Bodies Move.** 3372-3382
- Jiefeng Li , Chao Xu, Zhicun Chen, Siyuan Bian, Lixin Yang, Cewu Lu: **HybRIK: A Hybrid Analytical-Neural Inverse Kinematics Solution for 3D Human Pose and Shape Estimation.** 3383-3393
- Viresh Ranjan, Udbhav Sharma, Thu Nguyen, Minh Hoai: **Learning To Count Everything.** 3394-3403
- Gege Gao, Huaibo Huang, Chaoyou Fu, ZhaoYang Li, Ran He: **Information Bottleneck Disentanglement for Identity Swapping.** 3404-3413
- Sixue Gong, Xiaoming Liu, Anil K. Jain: **Mitigating Face Recognition Bias via Group Adaptive Classifier.** 3414-3424
- Seokeon Choi, Taekyung Kim, Minki Jeong, Hyoungseob Park, Changick Kim: **Meta Batch-Instance Normalization for Generalizable Person Re-Identification.** 3425-3435
- Xiao Zhang, Yixiao Ge, Yu Qiao , Hongsheng Li : **Refining Pseudo Labels With Clustering Consensus Over Generations for Unsupervised Object Re-Identification.** 3436-3445
- Federico Paredes-Vallés, Guido C. H. E. de Croon: **Back to Event Basics: Self-Supervised Learning of Image Reconstruction for Event Cameras via Photometric Constancy.** 3446-3455
- Denys Rozumnyi , Martin R. Oswald, Vittorio Ferrari, Jiri Matas , Marc Pollefeys : **DeFMO: Deblurring and Shape Recovery of Fast Moving Objects.** 3456-3465
- Matteo Maggioni, Yibin Huang, Cheng Li, Shuai Xiao, Zhongqian Fu, Fenglong Song: **Efficient Multi-Stage Video Denoising With Recurrent Spatio-Temporal Fusion.** 3466-3475
- Zheng Shi, Ethan Tseng, Mario Bijelic, Werner Ritter, Felix Heide: **ZeroScatter: Domain Transfer for Long Distance Imaging and Vision Through Scattering Media.** 3476-3486
- Mohit Lamba, Kaushik Mitra : **Restoring Extremely Dark Images in Real Time.** 3487-3497
- Jing Tan, Shan Zhao, Pengfei Xiong, Jiangyu Liu, Haoqiang Fan, Shuaicheng Liu : **Practical Wide-Angle Portraits Correction With Deep Structured Models.** 3498-3506
- Wenzhu Xing, Karen O. Egiazarian : **End-to-End Learning for Joint Image Demosaicing, Denoising and Super-Resolution.** 3507-3516
- Yiqun Mei, Yuchen Fan, Yuqian Zhou: **Image Super-Resolution With Non-Local Sparse Attention.** 3517-3526
- Yan-Cheng Huang, Yi-Hsin Chen , Cheng-You Lu, Hui-Po Wang, Wen-Hsiao Peng , Ching-Chun Huang: **Video Rescaling Networks With Joint Optimization Strategies for Downscaling and Upscaling.** 3527-3536
- Seunghwan Lee, Donghyeon Cho, Jiwon Kim, Tae Hyun Kim: **Restore From Restored: Video Restoration With Pseudo Clean Video.** 3537-3546
- Brett D. Roads, Bradley C. Love: **Enriching ImageNet With Human Similarity Judgments and Psychological Embeddings.** 3547-3557
- Soravit Changpinyo, Piyush Sharma, Nan Ding, Radu Soricut: **Conceptual 12M: Pushing Web-Scale Image-Text Pre-Training To Recognize Long-Tail Visual Concepts.** 3558-3568
- Le Yang , Haojun Jiang, Ruojin Cai, Yulin Wang , Shiji Song, Gao Huang, Qi Tian: **CondenseNet V2: Sparse Feature Reactivation for Deep Networks.** 3569-3578
- Zhen Huang, Xu Shen, Jun Xing, Tongliang Liu , Xinmei Tian, Houqiang Li, Bing Deng, Jianqiang Huang, Xian-Sheng Hua: **Revisiting Knowledge Distillation: An Inheritance and Exploration Framework.** 3579-3588
- Chong Yu: **Minimally Invasive Surgery for Sparse Neural Networks in Contrastive Manner.** 3589-3598
- Xiao Zhou, Weizhong Zhang, Hang Xu, Tong Zhang: **Effective Sparsification of Neural Networks With Global Sparsity Constraint.** 3599-3608
- Zekun Sun , Yujie Han, Zeyu Hua, Na Ruan, Weijia Jia: **Improving the Efficiency and Robustness of Deepfakes Detection Through Precise Geometric Features.** 3609-3618
- Wolfgang Stammer, Patrick Schramowski, Kristian Kersting: **Right for the Right Concept: Revising Neuro-Symbolic Concepts by Interacting With Their Explanations.** 3619-3629
- Ding Sheng Ong, Chee Seng Chan, Kam Woh Ng, Lixin Fan, Qiang Yang: **Protecting Intellectual Property of Generative Adversarial Networks From Ambiguity Attacks.** 3630-3639
- Sijie Zhu, Taojiannan Yang, Chen Chen: **VIGOR: Cross-View Image Geo-Localization Beyond One-to-One Retrieval.** 3640-3649
- Michael Wray , Hazel Doughty , Dima Damen: **On Semantic Similarity in Video Retrieval.** 3650-3660



- Zhimeng Zhang, Lincheng Li, Yu Ding, Changjie Fan:  
**Flow-Guided One-Shot Talking Face Generation With a High-Resolution Audio-Visual Dataset.** 3661-3670
- Anton Cherepkov, Andrey Voynov, Artem Babenko:  
**Navigating the GAN Parameter Space for Semantic Image Editing.** 3671-3680
- Pei Wang, Yijun Li, Krishna Kumar Singh, Jingwan Lu, Nuno Vasconcelos :  
**IMAGINE: Image Synthesis by Image-Guided Model Inversion.** 3681-3690
- Qiang Zhou, Shiyin Wang, Yitong Wang, Zilong Huang, Xinggang Wang :  
**Human De-Occlusion: Invisible Perception and Recovery for Humans.** 3691-3701
- Xiao-Chang Liu , Yong-Liang Yang, Peter Hall :  
**Learning To Warp for Style Transfer.** 3702-3711
- Moustafa Meshry, Yixuan Ren , Larry S. Davis, Abhinav Shrivastava:  
**StEP: Style-Based Encoder Pre-Training for Multi-Modal Image Synthesis.** 3712-3721
- Amit Raj, Julian Tanke, James Hays, Minh Vo, Carsten Stoll, Christoph Lassner:  
**ANR: Articulated Neural Rendering for Virtual Avatars.** 3722-3731
- Cheng-Fu Yang, Wan-Cyuan Fan, Fu-En Yang, Yu-Chiang Frank Wang:  
**LayoutTransformer: Scene Layout Generation With Conceptual and Spatial Diversity.** 3732-3741
- Michael Dorkenwald, Timo Milbich, Andreas Blattmann, Robin Rombach, Konstantinos G. Derpanis, Björn Ommer:  
**Stochastic Image-to-Video Synthesis Using cINNs.** 3742-3753
- Baoquan Zhang, Xutao Li, Yunming Ye, Zhichao Huang, Lisai Zhang:  
**Prototype Completion With Primitive Knowledge for Few-Shot Learning.** 3754-3762
- Bi Li, Teng Xi, Gang Zhang, Haocheng Feng, Junyu Han, Jingtuo Liu, Errui Ding, Wenyu Liu:  
**Dynamic Class Queue for Large Scale Face Recognition in the Wild.** 3763-3772
- Anadi Chaman, Ivan Dokmanic :  
**Truly Shift-Invariant Convolutional Neural Networks.** 3773-3783
- Jianfeng Wang, Thomas Lukasiewicz, Xiaolin Hu, Jianfei Cai, Zhenghua Xu:  
**RSG: A Simple but Effective Module for Learning Imbalanced Datasets.** 3784-3793
- Yang Liu, Lei Zhou , Xiao Bai, Yifei Huang, Lin Gu , Jun Zhou, Tatsuya Harada:  
**Goal-Oriented Gaze Estimation for Zero-Shot Learning.** 3794-3803
- Berk Kaya, Suryansh Kumar , Carlos E. P. de Oliveira, Vittorio Ferrari, Luc Van Gool:  
**Uncalibrated Neural Inverse Rendering for Photometric Stereo of General Surfaces.** 3804-3814
- Jiaru Zhang, Yang Hua , Zhengui Xue, Tao Song , Chengyu Zheng, Ruhui Ma, Haibing Guan:  
**Robust Bayesian Neural Networks by Spectral Expectation Bound Regularization.** 3815-3824
- Yunyang Xiong, Hanxiao Liu, Suyog Gupta, Berkin Akin, Gabriel Bender, Yongzhe Wang, Pieter-Jan Kindermans, Mingxing Tan, Vikas Singh, Bo Chen:  
**MobileDets: Searching for Object Detection Architectures for Mobile Accelerators.** 3825-3834
- Qian Li, Zhichao Wang, Gang Li , Jun Pang, Guandong Xu:  
**Hilbert Sinkhorn Divergence for Optimal Transport.** 3835-3844
- Hamad Ahmed, Ronnie B. Wilbur, Hari M. Bharadwaj, Jeffrey Mark Siskind :  
**Object Classification From Randomized EEG Trials.** 3845-3854
- Yuxing Tang, Zhenjie Cao, Yanbo Zhang, Zhicheng Yang, Zongcheng Ji, Yiwei Wang, Mei Han, Jie Ma, Jing Xiao, Peng Chang:  
**Leveraging Large-Scale Weakly Labeled Data for Semi-Supervised Mass Detection in Mammograms.** 3855-3864
- Ramana Sundararaman, Cedric De Almeida Braga, Éric Marchand, Julien Pettré:  
**Tracking Pedestrian Heads in Dense Crowd.** 3865-3875
- Qiang Wang, Yun Zheng, Pan Pan, Yinghui Xu:  
**Multiple Object Tracking With Correlation Learning.** 3876-3886
- Austin Stone, Daniel Maurer, Alper Ayvaci, Anelia Angelova, Rico Jonschkowski:  
**SMURF: Self-Teaching Multi-Frame Unsupervised RAFT With Full-Image Warping.** 3887-3896
- Marcus Valtonen Örnham , José Pedro Iglesias, Carl Olsson:  
**Bilinear Parameterization for Non-Separable Singular Value Penalties.** 3897-3906
- Zongxin Yang, Xin Yu, Yi Yang:  
**DSC-PoseNet: Learning 6DoF Object Pose Estimation via Dual-Scale Consistency.** 3907-3916
- Yutong Zheng, Yu-Kai Huang, Ran Tao, Zhiqiang Shen, Marios Savvides:  
**Unsupervised Disentanglement of Linear-Encoded Facial Semantics.** 3917-3926
- Xiaoqing Guo , Chen Yang , Baopu Li, Yixuan Yuan :  
**MetaCorrection: Domain-Aware Meta Loss Correction for Unsupervised Domain Adaptation in Semantic Segmentation.** 3927-3936
- Zhekai Du, Jingjing Li, Hongzu Su, Lei Zhu , Ke Lu:  
**Cross-Domain Gradient Discrepancy Minimization for Unsupervised Domain Adaptation.** 3937-3946
- Chengzhi Mao, Augustine Cha, Amogh Gupta, Hao Wang, Junfeng Yang, Carl Vondrick:  
**Generative Interventions for Causal Learning.** 3947-3956



- Xinting Hu, Kaihua Tang, Chunyan Miao, Xian-Sheng Hua, Hanwang Zhang : **Distilling Causal Effect of Data in Class-Incremental Learning.** 3957-3966
- Sungyeon Kim, Dongwon Kim, Minsu Cho, Suha Kwak: **Embedding Transfer With Label Relaxation for Improved Metric Learning.** 3967-3976
- Minheng Ni, Haoyang Huang, Lin Su, Edward Cui, Taroon Bharti, Lijuan Wang, Dongdong Zhang, Nan Duan : **M3P: Learning Universal Representations via Multitask Multilingual Multimodal Pre-Training.** 3977-3986
- Ceyuan Yang, Zhirong Wu, Bolei Zhou, Stephen Lin: **Instance Localization for Self-Supervised Detection Pretraining.** 3987-3996
- Siyuan Qiao, Yukun Zhu, Hartwig Adam, Alan L. Yuille, Liang-Chieh Chen: **VIP-DeepLab: Learning Visual Perception With Depth-Aware Video Panoptic Segmentation.** 3997-4008
- Shariq Farooq Bhat, Ibraheem Alhashim , Peter Wonka: **AdaBins: Depth Estimation Using Adaptive Bins.** 4009-4018
- Lei Ke, Yu-Wing Tai , Chi-Keung Tang: **Deep Occlusion-Aware Instance Segmentation With Overlapping BiLayers.** 4019-4028
- Pedro Savarese, Sunnie S. Y. Kim, Michael Maire, Greg Shakhnarovich, David McAllester: **Information-Theoretic Segmentation by Inpainting Error Maximization.** 4029-4039
- Arthur Douillard, Yifu Chen, Arnaud Dapogny, Matthieu Cord: **PLOP: Learning Without Forgetting for Continual Semantic Segmentation.** 4040-4050
- Haoyu Ma, Xiangru Lin, Zifeng Wu, Yizhou Yu: **Coarse-To-Fine Domain Adaptive Semantic Segmentation With Photometric Alignment and Category-Center Regularization.** 4051-4060
- Yuval Nirkin, Lior Wolf, Tal Hassner: **HyperSeg: Patch-Wise Hypernetwork for Real-Time Semantic Segmentation.** 4061-4070
- Jungbeom Lee, Eunji Kim, Sungroh Yoon: **Anti-Adversarially Manipulated Attributions for Weakly and Semi-Supervised Semantic Segmentation.** 4071-4080
- Qiang Zhou, Chaohui Yu, Zhibin Wang, Qi Qian, Hao Li: **Instant-Teaching: An End-to-End Semi-Supervised Object Detection Framework.** 4081-4090
- Jinhong Deng, Wen Li, Yuhua Chen, Lixin Duan: **Unbiased Mean Teacher for Cross-Domain Object Detection.** 4091-4101
- Jennifer Jang, Heinrich Jiang: **MeanShift++: Extremely Fast Mode-Seeking With Applications to Segmentation and Object Tracking.** 4102-4113
- Yair Kittenplon, Yonina C. Eldar, Dan Raviv: **FlowStep3D: Model Unrolling for Self-Supervised Scene Flow Estimation.** 4114-4123
- A. J. Piergiovanni, Michael S. Ryoo: **Recognizing Actions in Videos From Unseen Viewpoints.** 4124-4132
- Jiaxu Miao, Yunchao Wei, Yu Wu , Chen Liang, Guangrui Li, Yi Yang: **VSPW: A Large-scale Dataset for Video Scene Parsing in the Wild.** 4133-4143
- Li Hu, Peng Zhang, Bang Zhang, Pan Pan, Yinghui Xu, Rong Jin: **Learning Position and Target Consistency for Memory-Based Video Object Segmentation.** 4144-4154
- Mingyang Zhou, Luwei Zhou, Shuohang Wang, Yu Cheng, Linjie Li, Zhou Yu, Jingjing Liu: **UC2: Universal Cross-Lingual Cross-Modal Vision-and-Language Pre-Training.** 4155-4165
- Bowen Shi, Diane Brentari, Greg Shakhnarovich, Karen Livescu : **Fingerspelling Detection in American Sign Language.** 4166-4175
- Hang Zhou, Yasheng Sun, Wayne Wu, Chen Change Loy, Xiaogang Wang , Ziwei Liu: **Pose-Controllable Talking Face Generation by Implicitly Modularized Audio-Visual Representation.** 4176-4186
- Tianrui Hui, Shaofei Huang, Si Liu, Zihan Ding, Guanbin Li, Wenguan Wang , Jizhong Han, Fei Wang: **Collaborative Spatial-Temporal Modeling for Language-Queried Video Actor Segmentation.** 4187-4196
- Yang Zhao, Zhou Zhao, Zhu Zhang, Zhijie Lin: **Cascaded Prediction Network via Segment Tree for Temporal Video Grounding.** 4197-4206
- Corentin Kervadec, Theo Jaunet, Grigory Antipov, Moez Baccouche, Romain Vuillemot, Christian Wolf: **How Transferable Are Reasoning Patterns in VQA?** 4207-4216
- Xiangtai Li, Hao He, Xia Li, Duo Li, Guangliang Cheng, Jianping Shi, Lubin Weng, Yunhai Tong, Zhouchen Lin: **PointFlow: Flowing Semantics Through Points for Aerial Image Segmentation.** 4217-4226
- Lu Mi, Hang Zhao, Charlie Nash, Xiaohan Jin, Jiyang Gao, Chen Sun, Cordelia Schmid, Nir Shavit, Yuning Chai, Dragomir Anguelov: **HDMapGen: A Hierarchical Graph Generative Model of High Definition Maps.** 4227-4236
- Jingyuan Yang, Jie Li, Leida Li, Xiumei Wang, Xinbo Gao: **A Circular-Structured Representation for Visual Emotion Distribution Learning.** 4237-4246
- Ayan Kumar Bhunia, Pinaki Nath Chowdhury, Aneeshan Sain , Yongxin Yang, Tao Xiang, Yi-Zhe Song: **More Photos Are All You Need: Semi-Supervised Learning for Fine-Grained Sketch Based Image Retrieval.** 4247-



4256

- Yifan Xu, Weijian Xu, David Cheung, Zhuowen Tu:  
**Line Segment Detection Using Transformers Without Edges.** 4257-4266
- Shengyu Huang, Zan Gojcic, Mikhail Usyatsov, Andreas Wieser , Konrad Schindler:  
**Predator: Registration of 3D Point Clouds With Low Overlap.** 4267-4276
- Cheng Lin, Changjian Li, Yuan Liu, Nenglun Chen, Yi-King Choi, Wenping Wang:  
**Point2Skeleton: Learning Skeletal Representations from Point Clouds.** 4277-4286
- Petr Kellnhofer, Lars Jebe, Andrew Jones, Ryan Spicer, Kari Pulli, Gordon Wetzstein :  
**Neural Lumigraph Rendering.** 4287-4297
- Álvaro Parra, Shin-Fang Ch'ng, Tat-Jun Chin, Anders P. Eriksson, Ian Reid:  
**Rotation Coordinate Descent for Fast Globally Optimal Rotation Averaging.** 4298-4307
- Zhaoyang Lyu, Minghao Guo, Tong Wu, Guodong Xu, Kehuan Zhang, Dahua Lin:  
**Towards Evaluating and Training Verifiably Robust Neural Networks.** 4308-4317
- Vladimir Guzov, Aymen Mir, Torsten Sattler, Gerard Pons-Moll:  
**Human POSEitioning System (HPS): 3D Human Pose Estimation and Self-Localization in Large Scenes From Body-Mounted Sensors.** 4318-4329
- Qiong Wu, Pingyang Dai , Jie Chen, Chia-Wen Lin, Yongjian Wu, Feiyue Huang, Bineng Zhong, Rongrong Ji:  
**Discover Cross-Modality Nuances for Visible-Infrared Person Re-Identification.** 4330-4339
- Liyuan Pan, Shah Chowdhury, Richard Hartley, Miaomiao Liu, Hongguang Zhang, Hongdong Li :  
**Dual Pixel Exploration: Simultaneous Depth Estimation and Image Restoration.** 4340-4349
- Yuan-Hong Liao, Amlan Kar, Sanja Fidler:  
**Towards Good Practices for Efficiently Annotating Large-Scale Image Classification Datasets.** 4350-4359
- Yinan He, Bei Gan, Siyu Chen, Yichun Zhou, Guojun Yin, Luchuan Song, Lu Sheng , Jing Shao, Ziwei Liu:  
**ForgeryNet: A Versatile Benchmark for Comprehensive Forgery Analysis.** 4360-4369
- Jiawei Liu, Zheng-Jun Zha, Wei Wu, Kecheng Zheng, Qibin Sun:  
**Spatial-Temporal Correlation and Topology Learning for Person Re-Identification in Videos.** 4370-4379
- Yichen Sheng, Jianming Zhang, Bedrich Benes:  
**SSN: Soft Shadow Network for Image Compositing.** 4380-4390
- Tal Daniel, Aviv Tamar:  
**Soft-IntroVAE: Analyzing and Improving the Introspective Variational Autoencoder.** 4391-4400
- Da-Wei Zhou, Han-Jia Ye, De-Chuan Zhan:  
**Learning Placeholders for Open-Set Recognition.** 4401-4410
- Yixing Xu, Yunhe Wang, Kai Han, Yehui Tang, Shangling Jui, Chunjing Xu, Chang Xu :  
**ReNAS: Relativistic Evaluation of Neural Architecture Search.** 4411-4420
- Siyuan Cheng, Bineng Zhong, Guorong Li, Xin Liu, Zhenjun Tang, Xianxian Li, Jing Wang:  
**Learning To Filter: Siamese Relation Network for Robust Tracking.** 4421-4431
- Yinghao Xu, Yujun Shen, Jiapeng Zhu, Ceyuan Yang, Bolei Zhou:  
**Generative Hierarchical Features From Synthesizing Images.** 4432-4442
- Riccardo Volpi, Diane Larlus, Grégoire Rogez:  
**Continual Adaptation of Visual Representations via Domain Randomization and Meta-Learning.** 4443-4453
- Miguel Jaques, Michael Burke, Timothy M. Hospedales:  
**NewtonianVAE: Proportional Control and Goal Identification From Pixels via Physical Latent Spaces.** 4454-4463
- Zhengzhe Liu, Xiaojuan Qi, Chi-Wing Fu:  
**3D-to-2D Distillation for Indoor Scene Parsing.** 4464-4474
- Nontawat Tritrong, Pitchaporn Rewatbowornwong, Supasorn Suwajanakorn:  
**Repurposing GANs for One-Shot Semantic Part Segmentation.** 4475-4485
- Chuhan Zhang, Ankush Gupta, Andrew Zisserman:  
**Temporal Query Networks for Fine-Grained Video Understanding.** 4486-4496
- Kiana Ehsani, Winson Han, Alvaro Herrasti, Eli VanderBilt, Luca Weihs, Eric Kolve, Aniruddha Kembhavi, Roozbeh Mottaghi:  
**ManipulaTHOR: A Framework for Visual Object Manipulation.** 4497-4506
- Erika Lu, Forrester Cole, Tali Dekel, Andrew Zisserman, William T. Freeman, Michael Rubinstein:  
**Omnimatte: Associating Objects and Their Effects in Video.** 4507-4515
- Vibashan VS, Vikram Gupta, Poojan Oza, Vishwanath A. Sindagi, Vishal M. Patel:  
**MeGA-CDA: Memory Guided Attention for Category-Aware Unsupervised Domain Adaptive Object Detection.** 4516-4526
- Zhibo Fan, Yuchen Ma, Zeming Li, Jian Sun:  
**Generalized Few-Shot Object Detection Without Forgetting.** 4527-4536
- Yuanyi Zhong, Jianfeng Wang, Lijuan Wang, Jian Peng, Yu-Xiong Wang, Lei Zhang:  
**DAP: Detection-Aware Pre-Training With Weak Supervision.** 4537-4546



- Jing Huang , Guan Pang, Rama Kovvuri, Mandy Toh, Kevin J. Liang, Praveen Krishnan, Xi Yin, Tal Hassner: **A Multiplexed Network for End-to-End, Multilingual OCR.** 4547-4557
- Hao Wang, Xiang Bai, Mingkun Yang, Shenggao Zhu, Jing Wang, Wenyu Liu: **Scene Text Retrieval via Joint Text Detection and Similarity Learning.** 4558-4567
- Zhenyu Wang, Yali Li, Ye Guo, Lu Fang, Shengjin Wang: **Data-Uncertainty Guided Multi-Phase Learning for Semi-Supervised Object Detection.** 4568-4577
- Alex Yu, Vickie Ye, Matthew Tancik, Angjoo Kanazawa: **pixelNeRF: Neural Radiance Fields From One or Few Images.** 4578-4587
- Francis Engelmann , Konstantinos Rematas, Bastian Leibe , Vittorio Ferrari: **From Points to Multi-Object 3D Reconstruction.** 4588-4597
- Weihang Liao, Art Subpa-Asa, Yinjiang Zheng , Imari Sato: **4D Hyperspectral Photoacoustic Data Restoration With Reliability Analysis.** 4598-4607
- Yinyu Nie , Ji Hou, Xiaoguang Han, Matthias Nießner: **RfD-Net: Point Scene Understanding by Semantic Instance Reconstruction.** 4608-4618
- Chulin Xie, Chuxin Wang, Bo Zhang , Hao Yang, Dong Chen, Fang Wen: **Style-Based Point Generator With Adversarial Rendering for Point Cloud Completion.** 4619-4628
- Antonio Alliegro, Diego Valsesia, Giulia Fracastoro, Enrico Magli, Tatiana Tommasi: **Denoise and Contrast for Category Agnostic Shape Completion.** 4629-4638
- Luca Morreale , Noam Aigerman, Vladimir G. Kim, Niloy J. Mitra: **Neural Surface Maps.** 4639-4648
- Luyang Zhu, Arsalan Mousavian, Yu Xiang, Hammad Mazhar, Jozef van Eenbergen, Shoubhik Debnath, Dieter Fox: **RGB-D Local Implicit Function for Depth Completion of Transparent Objects.** 4649-4658
- Alexander Vakhitov , Luis Ferraz, Antonio Agudo , Francesc Moreno-Noguer: **Uncertainty-Aware Camera Pose Estimation From Points and Lines.** 4659-4668
- Qunjie Zhou, Torsten Sattler, Laura Leal-Taixé: **Patch2Pix: Epipolar-Guided Pixel-Level Correspondences.** 4669-4678
- John Phillips, Julieta Martinez, Ioan Andrei Barsan, Sergio Casas, Abbas Sadat, Raquel Urtasun: **Deep Multi-Task Learning for Joint Localization, Perception, and Prediction.** 4679-4689
- Qianqian Wang, Zhicheng Wang, Kyle Genova, Pratul P. Srinivasan, Howard Zhou, Jonathan T. Barron, Ricardo Martin-Brualla, Noah Snavely, Thomas A. Funkhouser: **IBRNet: Learning Multi-View Image-Based Rendering.** 4690-4699
- Philipp Henzler, Jeremy Reizenstein, Patrick Labatut, Roman Shapovalov, Tobias Ritschel, Andrea Vedaldi, David Novotný: **Unsupervised Learning of 3D Object Categories From Videos in the Wild.** 4700-4709
- Jin Fang, Xinxin Zuo , Dingfu Zhou, Shengze Jin, Sen Wang , Liangjun Zhang: **LiDAR-Aug: A General Rendering-Based Augmentation Framework for 3D Object Detection.** 4710-4720
- Xinzhu Ma, Yinmin Zhang, Dan Xu, Dongzhan Zhou, Shuai Yi, Haojie Li, Wanli Ouyang: **Delving Into Localization Errors for Monocular 3D Object Detection.** 4721-4730
- Mohsen Fayyaz, Emad Bahrami Rad, Ali Diba, Mehdi Noroozi, Ehsan Adeli , Luc Van Gool, Jürgen Gall: **3D CNNs With Adaptive Temporal Feature Resolutions.** 4731-4740
- Linguo Li, Minsi Wang, Bingbing Ni, Hang Wang, Jiancheng Yang , Wenjun Zhang: **3D Human Action Representation Learning via Cross-View Consistency Pursuit.** 4741-4750
- Zhihui Li, Lina Yao: **Three Birds with One Stone: Multi-Task Temporal Action Detection via Recycling Temporal Annotations.** 4751-4760
- Wenxuan Wang, Bangjie Yin, Taiping Yao, Li Zhang, Yanwei Fu , Shouhong Ding, Jilin Li, Feiyue Huang, Xiangyang Xue: **Delving into Data: Effectively Substitute Training for Black-box Attack.** 4761-4770
- Jean-Baptiste Truong, Pratyush Maini, Robert J. Walls, Nicolas Papernot: **Data-Free Model Extraction.** 4771-4780
- Vasily Zadorozhnyy, Qiang Cheng, Qiang Ye: **Adaptive Weighted Discriminator for Training Generative Adversarial Networks.** 4781-4790
- Mallikarjun B. R., Ayush Tewari, Tae-Hyun Oh, Tim Weyrich , Bernd Bickel, Hans-Peter Seidel, Hanspeter Pfister , Wojciech Matusik, Mohamed Elgarib, Christian Theobalt : **Monocular Reconstruction of Neural Face Reflectance Fields.** 4791-4800
- Qiongjie Cui, Huaijiang Sun: **Towards Accurate 3D Human Motion Prediction From Incomplete Observations.** 4801-4810
- Yuxiao Zhou, Marc Habermann, Ikhsanul Habibie , Ayush Tewari, Christian Theobalt , Feng Xu: **Monocular Real-Time Full Body Capture With Inter-Part Correlations.** 4811-4822
- Lingbo Liu, Jiaqi Chen, Hefeng Wu, Guanbin Li, Chenglong Li, Liang Lin: **Cross-Modal Collaborative Representation Learning and a Large-Scale RGBT Benchmark for Crowd Counting.** 4823-4833



- Yuhao Zhu, Qi Li, Jian Wang, Cheng-Zhong Xu , Zhenan Sun:  
**One Shot Face Swapping on Megapixels.** 4834-4844
- Tengfei Song, Zijun Cui, Yuru Wang, Wenming Zheng, Qiang Ji:  
**Dynamic Probabilistic Graph Convolution for Facial Action Unit Intensity Estimation.** 4845-4854
- Fengxiang Yang, Zhun Zhong, Zhiming Luo, Yuanzheng Cai, Yaojin Lin, Shaozi Li, Nicu Sebe :  
**Joint Noise-Tolerant Learning and Meta Camera Shift Adaptation for Unsupervised Person Re-Identification.** 4855-4864
- Hanjae Kim, Sunghun Joung, Ig-Jae Kim, Kwanghoon Sohn:  
**Prototype-Guided Saliency Feature Learning for Person Search.** 4865-4874
- K. Ram Prabhakar , Gowtham Senthil, Susmit Agarwal, R. Venkatesh Babu , Rama Krishna Sai Subrahmanyam Gorthi:  
**Labeled From Unlabeled: Exploiting Unlabeled Data for Few-Shot Deep HDR Deghosting.** 4875-4885
- Jiangxin Dong, Stefan Roth, Bernt Schiele :  
**Learning Spatially-Variant MAP Models for Non-Blind Image Deblurring.** 4886-4895
- Shen Cheng, Yuzhi Wang, Haibin Huang, Donghao Liu, Haoqiang Fan, Shuaicheng Liu :  
**NBNet: Noise Basis Learning for Image Denoising With Subspace Projection.** 4896-4906
- Man Zhou, Jie Xiao, Yifan Chang, Xueyang Fu , Aiping Liu, Jinshan Pan, Zheng-Jun Zha:  
**Image De-Raining via Continual Learning.** 4907-4916
- Longguang Wang, Xiaoyu Dong, Yingqian Wang , Xinyi Ying , Zaiping Lin, Wei An, Yulan Guo:  
**Exploring Sparsity in Image Super-Resolution for Efficient Inference.** 4917-4926
- Zhihao Liu, Hui Yin, Xinyi Wu, Zhenyao Wu, Yang Mi , Song Wang :  
**From Shadow Generation To Shadow Removal.** 4927-4936
- Daqi Liu, Álvaro Parra, Tat-Jun Chin:  
**Spatiotemporal Registration for Event-Based Visual Odometry.** 4937-4946
- Kelvin C. K. Chan , Xintao Wang, Ke Yu, Chao Dong, Chen Change Loy:  
**BasicVSR: The Search for Essential Components in Video Super-Resolution and Beyond.** 4947-4956
- Aupendu Kar, Prabir Kumar Biswas:  
**Fast Bayesian Uncertainty Estimation and Reduction of Batch Normalized Single Image Super-Resolution Network.** 4957-4966
- Fan Zhang , Yu Li , Shaodi You, Ying Fu:  
**Learning Temporal Consistency for Low Light Video Enhancement From Single Images.** 4967-4976
- Qingyong Hu, Bo Yang, Sheikh Khalid, Wen Xiao, Niki Trigoni, Andrew Markham:  
**Towards Semantic Segmentation of Urban-Scale 3D Point Clouds: A Dataset, Benchmarks and Challenges.** 4977-4987
- Valentin Khrulkov, Artem Babenko:  
**Neural Side-by-Side: Predicting Human Preferences for No-Reference Super-Resolution Evaluation.** 4988-4997
- Fei Yang, Luis Herranz , Yongmei Cheng, Mikhail G. Mozerov:  
**Slimmable Compressive Autoencoders for Practical Neural Image Compression.** 4998-5007
- Pengguang Chen, Shu Liu, Hengshuang Zhao, Jiaya Jia:  
**Distilling Knowledge via Knowledge Review.** 5008-5017
- Yehui Tang, Yunhe Wang, Yixing Xu, Yiping Deng, Chao Xu, Dacheng Tao, Chang Xu :  
**Manifold Regularized Dynamic Network Pruning.** 5018-5028
- Kohei Yamamoto:  
**Learnable Companding Quantization for Accurate Low-Bit Neural Networks.** 5029-5038
- Alexandros Haliassos, Konstantinos Vougioukas, Stavros Petridis, Maja Pantic:  
**Lips Don't Lie: A Generalisable and Robust Approach To Face Forgery Detection.** 5039-5049
- Andrei Kapishnikov, Subhashini Venugopalan, Besim Avci, Ben Wedin, Michael Terry, Tolga Bolukbasi:  
**Guided Integrated Gradients: An Adaptive Path Method for Removing Noise.** 5050-5058
- Zelun Luo , Daniel J. Wu, Ehsan Adeli , Li Fei-Fei:  
**Scalable Differential Privacy With Sparse Network Finetuning.** 5059-5068
- Quankai Gao, Fudong Wang, Nan Xue, Jin-Gang Yu, Gui-Song Xia :  
**Deep Graph Matching Under Quadratic Constraint.** 5069-5078
- Xiaohan Wang, Linchao Zhu, Yi Yang:  
**T2VLAD: Global-Local Sequence Alignment for Text-Video Retrieval.** 5079-5088
- Jia Li, Zhaoyang Li, Jie Cao, Xinguang Song, Ran He:  
**FaceInpainter: High Fidelity Face Adaptation to Heterogeneous Domains.** 5089-5098
- Mohammadreza Armandpour, Ali Sadeghian, Chunyuan Li, Mingyuan Zhou:  
**Partition-Guided GANs.** 5099-5109
- Yifan Wang, Andrew Liu, Richard Tucker, Jiajun Wu, Brian L. Curless, Steven M. Seitz, Noah Snavely:  
**Repopulating Street Scenes.** 5110-5119



- Tengfei Wang, Hao Ouyang, Qifeng Chen:  
**Image Inpainting With External-Internal Learning and Monochromic Bottleneck.** 5120-5129
- Yangchen Xie, Xinyuan Chen, Li Sun, Yue Lu:  
**DG-Font: Deformable Generative Networks for Unsupervised Font Generation.** 5130-5140
- Tianwei Lin, Zhuoqi Ma, Fu Li, Dongliang He, Xin Li, Errui Ding, Nannan Wang, Jie Li, Xinbo Gao:  
**Drafting and Revision: Laplacian Pyramid Network for Fast High-Quality Artistic Style Transfer.** 5141-5150
- Artur Grigorev, Karim Iskakov, Anastasia Ianina , Renat Bashirov, Ilya Zakharkin , Alexander Vakhitov , Victor Lempitsky:  
**StylePeople: A Generative Model of Fullbody Human Avatars.** 5151-5160
- Arghya Pal, Raphael C.-W. Phan, KokSheik Wong :  
**Synthesize-It-Classifier: Learning a Generative Classifier Through Recurrent Self-Analysis.** 5161-5170
- Andreas Blattmann, Timo Milbich, Michael Dorkenwald, Björn Ommer:  
**Understanding Object Dynamics for Interactive Image-to-Video Synthesis.** 5171-5181
- Chengming Xu, Yanwei Fu , Chen Liu, Chengjie Wang, Jilin Li, Feiyue Huang, Li Zhang, Xiangyang Xue:  
**Learning Dynamic Alignment via Meta-Filter for Few-Shot Learning.** 5182-5191
- Yazhou Yao, Zeren Sun, Chuanyi Zhang, Fumin Shen, Qi Wu, Jian Zhang , Zhenmin Tang:  
**Jo-SRC: A Contrastive Approach for Combating Noisy Labels.** 5192-5201
- Nontawat Charoenphakdee, Jayakorn Vongkulbhaisal, Nuttapong Chairatanakul, Masashi Sugiyama:  
**On Focal Loss for Class-Posterior Probability Estimation: A Theoretical Perspective.** 5202-5211
- Shuang Li, Kaixiong Gong , Chi Harold Liu, Yulin Wang , Feng Qiao , Xinjing Cheng:  
**MetaSAug: Meta Semantic Augmentation for Long-Tailed Visual Recognition.** 5212-5221
- Massimiliano Mancini , Muhammad Ferjad Naeem, Yongqin Xian, Zeynep Akata:  
**Open World Compositional Zero-Shot Learning.** 5222-5230
- Zhile Chen, Feng Li, Yuhui Quan, Yong Xu, Hui Ji :  
**Deep Texture Recognition via Exploiting Cross-Layer Statistical Self-Similarity.** 5231-5240
- Runzhong Wang , Tianqi Zhang, Tianshu Yu, Junchi Yan, Xiaokang Yang:  
**Combinatorial Learning of Graph Edit Distance via Dynamic Embedding.** 5241-5250
- Yawen Duan, Xin Chen, Hang Xu, Zewei Chen, Xiaodan Liang, Tong Zhang, Zhenguo Li:  
**TransNAS-Bench-101: Improving Transferability and Generalizability of Cross-Task Neural Architecture Search.** 5251-5260
- Gregory P. Meyer:  
**An Alternative Probabilistic Interpretation of the Huber Loss.** 5261-5269
- Yohan Jun, Hyungseob Shin , Taejoon Eo, Dosik Hwang:  
**Joint Deep Model-Based MR Image and Coil Sensitivity Reconstruction Network (Joint-ICNet) for Fast MRI.** 5270-5279
- Fakai Wang, Kang Zheng, Le Lu, Jing Xiao, Min Wu, Shun Miao:  
**Automatic Vertebra Localization and Identification in CT by Spine Rectification and Anatomically-Constrained Optimization.** 5280-5288
- Bin Yan, Xinyu Zhang, Dong Wang, Huchuan Lu, Xiaoyun Yang:  
**Alpha-Refine: Boosting Tracking Performance by Precise Bounding Box Estimation.** 5289-5298
- Jiawei He , Zehao Huang , Naiyan Wang, Zhaoxiang Zhang:  
**Learnable Graph Matching: Incorporating Graph Partitioning With Deep Feature Learning for Multiple Object Tracking.** 5299-5309
- Kecheng Zheng, Wu Liu, Lingxiao He, Tao Mei, Jiebo Luo , Zheng-Jun Zha:  
**Group-aware Label Transfer for Domain Adaptive Person Re-identification.** 5310-5319
- Zhiqiang Fu, Yao Zhao, Dongxia Chang, Xingxing Zhang, Yiming Wang:  
**Double Low-Rank Representation With Projection Distance Penalty for Clustering.** 5320-5329
- Tianning Yuan, Fang Wan, Mengying Fu, Jianzhuang Liu, Songcen Xu, Xiangyang Ji, Qixiang Ye:  
**Multiple Instance Active Learning for Object Detection.** 5330-5339
- Boyan Jiang, Yinda Zhang, Xingkui Wei, Xiangyang Xue, Yanwei Fu :  
**Learning Compositional Representation for 4D Captures With Neural ODE.** 5340-5350
- Subhankar Roy , Evgeny Krivosheev, Zhun Zhong, Nicu Sebe , Elisa Ricci :  
**Curriculum Graph Co-Teaching for Multi-Target Domain Adaptation.** 5351-5360
- Astuti Sharma, Tarun Kalluri, Manmohan Chandraker:  
**Instance Level Affinity-Based Transfer for Unsupervised Domain Adaptation.** 5361-5371
- Xingxuan Zhang, Peng Cui, Renzhe Xu , Linjun Zhou, Yue He, Zheyuan Shen:  
**Deep Stable Learning for Out-of-Distribution Generalization.** 5372-5382
- Liyuan Wang, Kuo Yang, Chongxuan Li, Lanqing Hong, Zhenguo Li, Jun Zhu:  
**ORDisCo: Effective and Efficient Usage of Incremental Unlabeled Data for Semi-Supervised Continual Learning.** 5383-5392



- Yifan Sun, Yuke Zhu, Yuhan Zhang , Pengkun Zheng, Xi Qiu, Chi Zhang, Yichen Wei:  
**Dynamic Metric Learning: Towards a Scalable Metric Space To Accommodate Multiple Semantic Scales.** 5393-5402
- Peng Hu, Xi Peng, Hongyuan Zhu, Liangli Zhen, Jie Lin:  
**Learning Cross-Modal Retrieval With Noisy Labels.** 5403-5413
- Linus Ericsson, Henry Gouk, Timothy M. Hospedales:  
**How Well Do Self-Supervised Models Transfer?** 5414-5423
- Yifan Liu , Hao Chen, Yu Chen, Wei Yin, Chunhua Shen:  
**Generic Perceptual Loss for Modeling Structured Output Dependencies.** 5424-5432
- Songyan Zhang, Zhicheng Wang, Qiang Wang, Jinshuo Zhang, Gang Wei, Xiaowen Chu:  
**EDNet: Efficient Disparity Estimation With Cost Volume Combination and Attention-Based Spatial Residual.** 5433-5442
- Zhi Tian, Chunhua Shen, Xinlong Wang, Hao Chen:  
**BoxInst: High-Performance Instance Segmentation With Box Annotations.** 5443-5452
- Kai Zhang, Fujun Luan , Qianqian Wang, Kavita Bala , Noah Snavely:  
**PhySG: Inverse Rendering With Spherical Gaussians for Physics-Based Material Editing and Relighting.** 5453-5462
- Huiyu Wang, Yukun Zhu, Hartwig Adam, Alan L. Yuille, Liang-Chieh Chen:  
**MaX-DeepLab: End-to-End Panoptic Segmentation With Mask Transformers.** 5463-5474
- Guo-Sen Xie, Jie Liu, Huan Xiong, Ling Shao:  
**Scale-Aware Graph Neural Network for Few-Shot Semantic Segmentation.** 5475-5484
- Daan de Geus , Panagiotis Meletis , Chenyang Lu , Xiaoxiao Wen, Gijs Dubbelman:  
**Part-Aware Panoptic Segmentation.** 5485-5494
- Seungho Lee , Minhyun Lee, Jongwuk Lee, Hyunjung Shim:  
**Railroad Is Not a Train: Saliency As Pseudo-Pixel Supervision for Weakly Supervised Semantic Segmentation.** 5495-5505
- Yi Liu, Xiaoyang Huo, Tianyi Chen, Xiangping Zeng, Si Wu, Zhiwen Yu, Hau-San Wong:  
**Mask-Embedded Discriminator With Region-Based Semantic Regularization for Semi-Supervised Class-Conditional Image Synthesis.** 5506-5515
- Jiwoong Park, Junho Cho, Hyung Jin Chang , Jin Young Choi:  
**Unsupervised Hyperbolic Representation Learning via Message Passing Auto-Encoders.** 5516-5526
- Mehmet Aygun, Aljosa Osep, Mark Weber, Maxim Maximov, Cyrill Stachniss , Jens Behley , Laura Leal-Taixé:  
**4D Panoptic LiDAR Segmentation.** 5527-5537
- Yang Jiao, Trac D. Tran, Guangming Shi:  
**EffiScene: Efficient Per-Pixel Rigidity Inference for Unsupervised Joint Learning of Optical Flow, Depth, Camera Pose and Motion Segmentation.** 5538-5547
- Sanjay Haresh, Sateesh Kumar, Huseyin Coskun, Shahram Najam Syed, Andrey Konin, M. Zeeshan Zia, Quoc-Huy Tran:  
**Learning by Aligning Videos in Time.** 5548-5558
- Ho Kei Cheng , Yu-Wing Tai , Chi-Keung Tang:  
**Modular Interactive Video Object Segmentation: Interaction-to-Mask, Propagation and Difference-Aware Fusion.** 5559-5568
- Gunhee Nam, Miran Heo, Seoung Wug Oh, Joon-Young Lee, Seon Joo Kim:  
**Polygonal Point Set Tracking.** 5569-5578
- Pengchuan Zhang, Xiujun Li, Xiaowei Hu, Jianwei Yang, Lei Zhang, Lijuan Wang, Yejin Choi, Jianfeng Gao:  
**VinVL: Revisiting Visual Representations in Vision-Language Models.** 5579-5588
- Arka Sadhu, Tanmay Gupta, Mark Yatskar, Ram Nevatia, Aniruddha Kembhavi:  
**Visual Semantic Role Labeling for Video Understanding.** 5589-5600
- Yapeng Tian, Chenliang Xu:  
**Can Audio-Visual Integration Strengthen Robustness Under Multimodal Attacks?** 5601-5611
- Yongfei Liu, Bo Wan, Lin Ma, Xuming He:  
**Relation-aware Instance Refinement for Weakly Supervised Visual Grounding.** 5612-5621
- Tao Tu, Qing Ping, Govindarajan Thatai, Gökhan Tür, Prem Natarajan:  
**Learning Better Visual Dialog Agents With Pretrained Visual-Linguistic Representation.** 5622-5631
- Spencer Whitehead, Hui Wu, Heng Ji, Rogério Feris, Kate Saenko :  
**Separating Skills and Concepts for Novel Visual Question Answering.** 5632-5641
- Lvmin Zhang, Xinrui Wang, Qingnan Fan, Yi Ji, Chunping Liu:  
**Generating Manga From Illustrations via Mimicking Manga Creation Workflow.** 5642-5651
- Peizhao Li, Jiuxiang Gu, Jason Kuen, Vlad I. Morariu, Handong Zhao, Rajiv Jain, Varun Manjunatha, Hongfu Liu:  
**SelfDoc: Self-Supervised Document Representation Learning.** 5652-5660
- Trisha Mittal, Puneet Mathur, Aniket Bera, Dinesh Manocha:  
**Affect2MM: Affective Analysis of Multimedia Content Using Emotion Causality.** 5661-5671
- Ayan Kumar Bhunia, Pinaki Nath Chowdhury, Yongxin Yang, Timothy M. Hospedales, Tao Xiang, Yi-Zhe Song :  
**Vectorization and Rasterization: Self-Supervised Learning for Sketch and Handwriting.** 5672-5681



- Sheng Xu, Junhe Zhao, Jinhua Lu , Baochang Zhang, Shumin Han, David S. Doermann:  
**Layer-Wise Searching for 1-Bit Detectors.** 5682-5691
- Zan Gojcic, Or Litany, Andreas Wieser , Leonidas J. Guibas, Tolga Birdal :  
**Weakly Supervised Learning of Rigid 3D Scene Flow.** 5692-5703
- Ziyan Wang, Timur M. Bagautdinov, Stephen Lombardi, Tomas Simon, Jason M. Saragih, Jessica K. Hodgins, Michael Zollhöfer:  
**Learning Compositional Radiance Fields of Dynamic Human Heads.** 5704-5713
- Prune Truong, Martin Danelljan, Luc Van Gool, Radu Timofte :  
**Learning Accurate Dense Correspondences and When To Trust Them.** 5714-5724
- Pei Sun, Weiyue Wang, Yuning Chai, Gamaleldin Elsayed, Alex Bewley, Xiao Zhang, Cristian Sminchisescu, Dragomir Anguelov:  
**RSN: Range Sparse Net for Efficient, Accurate LiDAR 3D Object Detection.** 5725-5734
- Yunrui Yu, Xitong Gao , Cheng-Zhong Xu :  
**LAFEAT: Piercing Through Adversarial Defenses With Latent Features.** 5735-5745
- Tao Yu, Zerong Zheng , Kaiwen Guo, Pengpeng Liu, Qionghai Dai, Yebin Liu:  
**Function4D: Real-Time Human Volumetric Capture From Very Sparse Consumer RGBD Sensors.** 5746-5756
- Seung-Hwan Baek , Felix Heide:  
**Polka Lines: Learning Structured Illumination and Reconstruction for Active Stereo.** 5757-5767
- Jaeseok Byun, Sungmin Cha, Taesup Moon:  
**FBI-Denoiser: Fast Blind Image Denoiser for Poisson-Gaussian Noise.** 5768-5777
- Tianfei Zhou, Wenguan Wang , Zhiyuan Liang, Jianbing Shen:  
**Face Forensics in the Wild.** 5778-5788
- Dongze Li, Wei Wang , Hongxing Fan, Jing Dong:  
**Exploring Adversarial Fake Images on Face Manifold.** 5789-5798
- Eric R. Chan, Marco Monteiro, Petr Kellnhofer, Jiajun Wu, Gordon Wetzstein :  
**Pi-GAN: Periodic Implicit Generative Adversarial Networks for 3D-Aware Image Synthesis.** 5799-5809
- Aleksander Holynski, Brian L. Curless, Steven M. Seitz, Richard Szeliski:  
**Animating Pictures With Eulerian Motion Fields.** 5810-5819
- Seung Wook Kim, Jonah Philion, Antonio Torralba, Sanja Fidler:  
**DriveGAN: Towards a Controllable High-Quality Neural Simulation.** 5820-5829
- K. J. Joseph, Salman H. Khan, Fahad Shahbaz Khan, Vineeth N. Balasubramanian:  
**Towards Open World Object Detection.** 5830-5840
- Yufan He, Dong Yang, Holger Roth, Can Zhao, Daguang Xu:  
**DiNTS: Differentiable Neural Network Topology Search for 3D Medical Image Segmentation.** 5841-5850
- Qi Feng , Vitaly Ablavsky, Qinxun Bai, Stan Sclaroff:  
**Siamese Natural Language Tracker: Tracking by Natural Language Descriptions With Siamese Trackers.** 5851-5860
- Xinqi Zhu, Chang Xu , Dacheng Tao:  
**Where and What? Examining Interpretable Disentangled Representations.** 5861-5870
- Fei Zhu, Xu-Yao Zhang, Chuang Wang, Fei Yin, Cheng-Lin Liu:  
**Prototype Augmentation and Self-Supervision for Incremental Learning.** 5871-5880
- Yawen Huang, Feng Zheng, Danyang Wang, Weilin Huang, Matthew R. Scott, Ling Shao:  
**Brain Image Synthesis With Unsupervised Multivariate Canonical CSCI4Net.** 5881-5890
- Nicolas Girard, Dmitriy Smirnov , Justin Solomon, Yuliya Tarabalka:  
**Polygonal Building Extraction by Frame Field Learning.** 5891-5900
- Shubhankar Borse , Ying Wang, Yizhe Zhang, Fatih Porikli:  
**InverseForm: A Loss Function for Structured Boundary-Aware Segmentation.** 5901-5911
- Brendan Duke, Abdalla Ahmed, Christian Wolf, Parham Aarabi, Graham W. Taylor:  
**SSTVOS: Sparse Spatiotemporal Transformers for Video Object Segmentation.** 5912-5921
- Luca Weihs, Matt Deitke, Aniruddha Kembhavi, Roozbeh Mottaghi:  
**Visual Room Rearrangement.** 5922-5931
- Mianlun Zheng, Yi Zhou, Duygu Ceylan, Jernej Barbic:  
**A Deep Emulator for Secondary Motion of 3D Characters.** 5932-5940
- Qize Yang, Xihan Wei, Biao Wang, Xian-Sheng Hua, Lei Zhang:  
**Interactive Self-Training With Mean Teachers for Semi-Supervised Object Detection.** 5941-5950
- Siddhesh Khandelwal, Raghav Goyal, Leonid Sigal:  
**UniT: Unified Knowledge Transfer for Any-Shot Object Detection and Segmentation.** 5951-5961
- Hao Tian, Yuntao Chen, Jifeng Dai , Zhaoxiang Zhang, Xizhou Zhu:  
**Unsupervised Object Detection With LiDAR Clues.** 5962-5972



- Tianwei Wang, Yuanzhi Zhu, Lianwen Jin, Dezhi Peng, Zhe Li , Mengchao He, Yongpan Wang, Canjie Luo:  
**Implicit Feature Alignment: Learn To Convert Text Recognizer to Text Spotter.** 5973-5982
- Qi Wan, Haoqin Ji, Linlin Shen:  
**Self-Attention Based Text Knowledge Mining for Text Detection.** 5983-5992
- Jun Wei, Qin Wang, Zhen Li, Sheng Wang , S. Kevin Zhou, Shuguang Cui :  
**Shallow Feature Matters for Weakly Supervised Object Localization.** 5993-6001
- Tao Hu, Liwei Wang, Xiaogang Xu, Shu Liu, Jiaya Jia:  
**Self-Supervised 3D Mesh Reconstruction From Single Images.** 6002-6011
- Song-Hai Zhang, Yuan-Chen Guo, Qing-Wen Gu:  
**Sketch2Model: View-Aware 3D Modeling From Single Free-Hand Sketches.** 6012-6021
- Jiapeng Tang, Dan Xu, Kui Jia, Lei Zhang:  
**Learning Parallel Dense Correspondence From Spatio-Temporal Descriptors for Efficient and Robust 4D Reconstruction.** 6022-6031
- Haolin Liu , Anran Lin, Xiaoguang Han, Lei Yang, Yizhou Yu, Shuguang Cui :  
**Refer-It-in-RGBD: A Bottom-Up Approach for 3D Visual Grounding in RGBD Images.** 6032-6041
- Zizheng Que, Guo Lu, Dong Xu:  
**VoxelContext-Net: An Octree Based Framework for Point Cloud Compression.** 6042-6051
- Yiming Zeng , Yue Qian, Zhiyu Zhu , Junhui Hou , Hui Yuan, Ying He :  
**CorrNet3D: Unsupervised End-to-End Learning of Dense Correspondence for 3D Point Clouds.** 6052-6061
- Xianghao Xu, Wenzhe Peng, Chin-Yi Cheng, Karl D. D. Willis, Daniel Ritchie :  
**Inferring CAD Modeling Sequences Using Zone Graphs.** 6062-6070
- Norman Müller, Yu-Shiang Wong, Niloy J. Mitra, Angela Dai, Matthias Nießner:  
**Seeing Behind Objects for 3D Multi-Object Tracking in RGB-D Sequences.** 6071-6080
- Anand Bhattad, Aysegul Dundar, Guilin Liu, Andrew Tao, Bryan Catanzaro:  
**View Generalization for Single Image Textured 3D Models.** 6081-6090
- Chengtang Yao, Yunde Jia, Huijun Di, Pengxiang Li, Yuwei Wu:  
**A Decomposition Model for Stereo Matching.** 6091-6100
- Zhaoyang Huang, Han Zhou, Yijin Li, Bangbang Yang, Yan Xu, Xiaowei Zhou, Hujun Bao, Guofeng Zhang, Hongsheng Li :  
**VS-Net: Voting With Segmentation for Visual Localization.** 6101-6111
- Felix Wimbauer, Nan Yang, Lukas von Stumberg, Niclas Zeller, Daniel Cremers :  
**MonoRec: Semi-Supervised Dense Reconstruction in Dynamic Environments From a Single Moving Camera.** 6112-6122
- Daniel Lichy, Jiaye Wu, Soumyadip Sengupta, David W. Jacobs:  
**Shape and Material Capture at Home.** 6123-6133
- Charles R. Qi, Yin Zhou, Mahyar Najibi, Pei Sun, Khoa Vo, Boyang Deng, Dragomir Anguelov:  
**Offboard 3D Object Detection From Point Cloud Sequences.** 6134-6144
- Shujie Luo, Hang Dai, Ling Shao, Yong Ding:  
**M3DSSD: Monocular 3D Single Stage Object Detector.** 6145-6154
- Hengduo Li, Zuxuan Wu, Abhinav Shrivastava, Larry S. Davis:  
**2D or not 2D? Adaptive 3D Convolution Selection for Efficient Video Recognition.** 6155-6164
- Chun-Fu (Richard) Chen, Rameswar Panda, Kandan Ramakrishnan, Rogério Feris, John Cohn, Aude Oliva, Quanfu Fan:  
**Deep Analysis of CNN-Based Spatio-Temporal Representations for Action Recognition.** 6165-6175
- Yuan Liu, Jingyuan Chen, Zhenfang Chen, Bing Deng, Jianqiang Huang, Hanwang Zhang :  
**The Blessings of Unlabeled Background in Untrimmed Videos.** 6176-6185
- Hongbin Liu, Jinyuan Jia, Neil Zhenqiang Gong:  
**PointGuard: Provably Robust 3D Point Cloud Classification.** 6186-6195
- Ramtin Hosseini, Xingyi Yang , Pengtao Xie:  
**DSRNA: Differentiable Search of Robust Neural Architectures.** 6196-6205
- Emily Wenger, Josephine Passananti , Arjun Nitin Bhagoji , Yuanshun Yao, Haitao Zheng, Ben Y. Zhao:  
**Backdoor Attacks Against Deep Learning Systems in the Physical World.** 6206-6215
- Ziqian Bai, Zhaopeng Cui, Xiaoming Liu, Ping Tan:  
**Riggable 3D Face Reconstruction via In-Network Optimization.** 6216-6225
- Xin Suo, Yuheng Jiang, Pei Lin, Yingliang Zhang , Minye Wu, Kaiwen Guo, Lan Xu :  
**NeuralHumanFVV: Real-Time Neural Volumetric Human Performance Rendering Using RGB Cameras.** 6226-6237
- Xiaoxuan Ma , Jiajun Su, Chunyu Wang, Hai Ci, Yizhou Wang:  
**Context Modeling in 3D Human Pose Estimation: A Unified Perspective.** 6238-6247
- Jiahui She, Yibo Hu, Hailin Shi, Jun Wang, Qiu Shen, Tao Mei:  
**Dive Into Ambiguity: Latent Distribution Mining and Pairwise Uncertainty Estimation for Facial Expression Recognition.** 6248-6257



- Yichun Shi, Divyansh Aggarwal, Anil K. Jain:  
**Lifting 2D StyleGAN for 3D-Aware Face Generation.** 6258-6266
- Tengfei Song, Zijun Cui, Wenming Zheng, Qiang Ji:  
**Hybrid Message Passing With Performance-Driven Structures for Facial Action Unit Detection.** 6267-6276
- Yuyang Zhao, Zhun Zhong, Fengxiang Yang, Zhiming Luo, Yaojin Lin, Shaozi Li, Nicu Sebe :  
**Learning to Generalize Unseen Domains via Memory-based Multi-Source Meta-Learning for Person Re-Identification.** 6277-6286
- Yazhou Xing, Zian Qian, Qifeng Chen:  
**Invertible Image Signal Processing.** 6287-6296
- Nicolas Robidoux, Luis E. García Capel, Dongeun Seo, Avinash Sharma, Federico Ariza, Felix Heide:  
**End-to-End High Dynamic Range Camera Pipeline Optimization.** 6297-6307
- Liang Chen, Jiawei Zhang, Songnan Lin , Faming Fang, Jimmy S. Ren:  
**Blind Deblurring for Saturated Images.** 6308-6316
- Ben Moseley, Valentin Tertius Bickel , Ignacio G. Lopez Francos, Loveneesh Rana:  
**Extreme Low-Light Environment-Driven Image Denoising Over Permanently Shadowed Lunar Regions With a Physical Noise Model.** 6317-6327
- Siqi Ni, Xueyun Cao, Tao Yue, Xuemei Hu:  
**Controlling the Rain: From Removal to Rendering.** 6328-6337
- Shangzhe Wu , Ameesh Makadia, Jiajun Wu, Noah Snavely, Richard Tucker, Angjoo Kanazawa:  
**De-Rendering the World's Revolutionary Artefacts.** 6338-6347
- Shangrong Yang, Chunyu Lin, Kang Liao, Chunjie Zhang, Yao Zhao:  
**Progressively Complementary Network for Fisheye Image Rectification Using Appearance Flow.** 6348-6357
- Yajing Zheng, Lingxiao Zheng, Zhaofei Yu, Boxin Shi, Yonghong Tian, Tiejun Huang:  
**High-Speed Image Reconstruction Through Short-Term Plasticity for Spiking Cameras.** 6358-6367
- Liying Lu, Wenbo Li , Xin Tao , Jiangbo Lu , Jiaya Jia:  
**MASA-SR: Matching Acceleration and Spatial Adaptation for Reference-Based Image Super-Resolution.** 6368-6377
- Guy Shacht, Dov Danon, Sharon Fogel, Daniel Cohen-Or:  
**Single Pair Cross-Modality Super Resolution.** 6378-6387
- Gang Xu, Jun Xu, Zhen Li, Liang Wang, Xing Sun, Ming-Ming Cheng :  
**Temporal Modulation Network for Controllable Space-Time Video Super-Resolution.** 6388-6397
- Adam Van Etten, Daniel Hogan, Jesus Martinez-Manso, Jacob Shermeyer, Nicholas Weir, Ryan Lewis:  
**The Multi-Temporal Urban Development SpaceNet Dataset.** 6398-6407
- Apratim Bhattacharyya, Daniel Olmeda Reino, Mario Fritz, Bernt Schiele :  
**Euro-PVI: Pedestrian Vehicle Interactions in Dense Urban Centers.** 6408-6417
- Dilin Wang, Meng Li, Chengyue Gong, Vikas Chandra:  
**AttentiveNAS: Improving Neural Architecture Search via Attentive Sampling.** 6418-6427
- Hanting Chen, Tianyu Guo, Chang Xu , Wenshuo Li, Chunjing Xu, Chao Xu, Yunhe Wang:  
**Learning Student Networks in the Wild.** 6428-6437
- Yuchao Li, Shaohui Lin, Jianzhuang Liu, Qixiang Ye, Mengdi Wang , Fei Chao, Fan Yang, Jincheng Ma, Qi Tian, Rongrong Ji:  
**Towards Compact CNNs via Collaborative Compression.** 6438-6447
- Junghyup Lee , Dohyung Kim, Bumsuk Ham:  
**Network Quantization With Element-Wise Gradient Scaling.** 6448-6457
- Jiaming Li, Hongtao Xie, Jiahong Li, Zhongyuan Wang, Yongdong Zhang:  
**Frequency-Aware Discriminative Feature Learning Supervised by Single-Center Loss for Face Forgery Detection.** 6458-6467
- Dohun Lim, Hyeyonseok Lee, Sungchan Kim:  
**Building Reliable Explanations of Unreliable Neural Networks: Locally Smoothing Perspective of Model Interpretation.** 6468-6477
- Jia-Wei Chen, Li-Ju Chen, Chia-Mu Yu, Chun-Shien Lu:  
**Perceptual Indistinguishability-Net (PI-Net): Facial Image Obfuscation With Manipulable Semantics.** 6478-6487
- Aysim Toker, Qunjie Zhou, Maxim Maximov, Laura Leal-Taixé:  
**Coming Down to Earth: Satellite-to-Street View Synthesis for Geo-Localization.** 6488-6497
- Zhengqi Li, Simon Niklaus, Noah Snavely, Oliver Wang:  
**Neural Scene Flow Fields for Space-Time View Synthesis of Dynamic Scenes.** 6498-6508
- Daejin Kim, Mohammad Azam Khan, Jaegul Choo:  
**Not Just Compete, but Collaborate: Local Image-to-Image Translation via Cooperative Mask Prediction.** 6509-6518
- Xianchao Zhang, Ziyang Cheng, Xiaotong Zhang, Han Liu:  
**Posterior Promoted GAN With Distribution Discriminator for Unsupervised Image Synthesis.** 6519-6528
- Minjun Li, Yanghua Jin, Huachun Zhu:  
**Surrogate Gradient Field for Latent Space Manipulation.** 6529-6538



- Liang Liao, Jing Xiao, Zheng Wang, Chia-Wen Lin, Shin'ichi Satoh:  
**Image Inpainting Guided by Coherence Priors of Semantics and Textures.** 6539-6548
- Han Deng, Chu Han , Hongmin Cai, Guoqiang Han, Shengfeng He :  
**Spatially-Invariant Style-Codes Controlled Makeup Transfer.** 6549-6557
- Somi Jeong, Youngjung Kim, Eungbean Lee , Kwanghoon Sohn:  
**Memory-Guided Unsupervised Image-to-Image Translation.** 6558-6567
- Sumith Kulal, Jiayuan Mao, Alex Aiken, Jiajun Wu:  
**Hierarchical Motion Understanding via Motion Programs.** 6568-6576
- Zhengqin Xu, Rui He, Shoulie Xie, Shiqian Wu:  
**Adaptive Rank Estimate in Robust Principal Component Analysis.** 6577-6586
- Li Siyao, Shiyu Zhao, Weijiang Yu, Wenxiu Sun, Dimitris N. Metaxas, Chen Change Loy, Ziwei Liu:  
**Deep Animation Video Interpolation in the Wild.** 6587-6595
- Chaofan Chen, Xiaoshan Yang, Changsheng Xu, Xuhui Huang, Zhe Ma:  
**ECKPN: Explicit Class Knowledge Propagation Network for Transductive Few-Shot Learning.** 6596-6605
- Diego Ortego, Eric Arazo, Paul Albert , Noel E. O'Connor, Kevin McGuinness :  
**Multi-Objective Interpolation Training for Robustness To Label Noise.** 6606-6615
- Takumi Kobayashi:  
**T-vMF Similarity for Regularizing Intra-Class Feature Distribution.** 6616-6625
- Youngkyu Hong, Seungju Han, Kwanghee Choi, Seokjun Seo, Beomsu Kim, Buru Chang:  
**Disentangling Label Distribution for Long-Tailed Visual Recognition.** 6626-6636
- Abdelrahman Abdelhamed, Abhijith Punnappurath, Michael S. Brown:  
**Leveraging the Availability of Two Cameras for Illuminant Estimation.** 6637-6646
- Jingkai Zhou, Varun Jampani, Zhixiong Pi, Qiong Liu, Ming-Hsuan Yang:  
**Decoupled Dynamic Filter Networks.** 6647-6656
- Shaofei Cai, Liang Li , Jincan Deng, Beichen Zhang , Zheng-Jun Zha, Li Su, Qingming Huang:  
**Rethinking Graph Neural Architecture Search From Message-Passing.** 6657-6666
- Yibo Yang, Shan You, Hongyang Li, Fei Wang, Chen Qian, Zhouchen Lin:  
**Towards Improving the Consistency, Efficiency, and Flexibility of Differentiable Neural Architecture Search.** 6667-6676
- Xudong Wang, Long Lian, Stella X. Yu:  
**Unsupervised Visual Attention and Invariance for Reinforcement Learning.** 6677-6687
- Karren D. Yang, Samuel Goldman, Wengong Jin, Alex X. Lu, Regina Barzilay, Tommi S. Jaakkola, Caroline Uhler:  
**Mol2Image: Improved Conditional Flow Models for Molecule to Image Synthesis.** 6688-6698
- Lingming Zhang, Yue Zhao, Deyu Meng, Zhiming Cui, Chenqiang Gao, Xinbo Gao, Chunfeng Lian, Dinggang Shen:  
**TSGCNet: Discriminative Geometric Feature Learning With Two-Stream Graph Convolutional Network for 3D Dental Model Segmentation.** 6699-6708
- Shuai Jia , Yibing Song, Chao Ma, Xiaokang Yang:  
**IoU Attack: Towards Temporally Coherent Black-Box Adversarial Attack for Visual Object Tracking.** 6709-6718
- Hexin Bai, Wensheng Cheng, Peng Chu, Juehuan Liu, Kai Zhang, Haibin Ling:  
**GMOT-40: A Benchmark for Generic Multiple Object Tracking.** 6719-6728
- Hanjun Li, Gaojie Wu, Wei-Shi Zheng:  
**Combined Depth Space Based Architecture Search for Person Re-Identification.** 6729-6738
- Xiangyu Rui, Xiangyong Cao, Qi Xie, Zongsheng Yue, Qian Zhao, Deyu Meng:  
**Learning an Explicit Weighting Scheme for Adapting Complex HSI Noise.** 6739-6748
- Jongwon Choi, Kwang Moo Yi, Jihoon Kim, Jinho Choo, Byoungjin Kim, Jin-Yeop Chang, Youngjune Gwon, Hyung Jin Chang :  
**VaB-AL: Incorporating Class Imbalance and Difficulty With Variational Bayes for Active Learning.** 6749-6758
- Wei Zhang, Xianpeng Ji, Keyu Chen, Yu Ding, Changjie Fan:  
**Learning a Facial Expression Embedding Disentangled From Identity.** 6759-6768
- Weichen Zhang, Wen Li, Dong Xu:  
**SRDAN: Scale-Aware and Range-Aware Domain Adaptation Network for Cross-Dataset 3D Object Detection.** 6769-6779
- Junguang Jiang, Yifei Ji, Ximei Wang, Yufeng Liu , Jianmin Wang , Mingsheng Long :  
**Regressive Domain Adaptation for Unsupervised Keypoint Detection.** 6780-6789
- Fengchun Qiao, Xi Peng:  
**Uncertainty-Guided Model Generalization to Unseen Domains.** 6790-6800
- Kai Zhu, Yang Cao, Wei Zhai, Jie Cheng, Zheng-Jun Zha:  
**Self-Promoted Prototype Refinement for Few-Shot Class-Incremental Learning.** 6801-6810
- Chang Liu, Han Yu, Boyang Li, Zhiqi Shen, Zhanning Gao, Peiran Ren, Xuansong Xie, Lizhen Cui, Chunyan Miao:  
**Noise-Resistant Deep Metric Learning With Ranking-Based Instance Selection.** 6811-6820



- Yuntao Qu, Shasha Mo, Jianwei Niu:  
**DAT: Training Deep Networks Robust To Label-Noise by Matching the Feature Distributions.** 6821-6829
- Spyros Gidaris, Andrei Bursuc, Gilles Puy, Nikos Komodakis, Matthieu Cord, Patrick Pérez:  
**OBoW: Online Bag-of-Visual-Words Generation for Self-Supervised Learning.** 6830-6840
- Yutong Dai, Hao Lu, Chunhua Shen:  
**Learning Affinity-Aware Upsampling for Deep Image Matting.** 6841-6850
- Juan Luis Gonzalez, Munchurl Kim:  
**PLADE-Net: Towards Pixel-Level Accuracy for Self-Supervised Single-View Depth Estimation With Neural Positional Encoding and Distilled Matting Loss.** 6851-6860
- Gang Zhang, Xin Lu, Jingru Tan, Jianmin Li, Zhaoxiang Zhang, Quanquan Li, Xiaolin Hu:  
**RefineMask: Towards High-Quality Instance Segmentation With Fine-Grained Features.** 6861-6869
- Nikola Popovic, Danda Pani Paudel , Thomas Probst, Guolei Sun, Luc Van Gool:  
**CompositeTasking: Understanding Images by Spatial Composition of Tasks.** 6870-6880
- Sixiao Zheng, Jiachen Lu, Hengshuang Zhao, Xiatian Zhu, Zekun Luo, Yabiao Wang , Yanwei Fu , Jianfeng Feng, Tao Xiang, Philip H. S. Torr, Li Zhang:  
**Rethinking Semantic Segmentation From a Sequence-to-Sequence Perspective With Transformers.** 6881-6890
- Jiaxing Huang, Dayan Guan, Aoran Xiao , Shijian Lu:  
**FSDR: Frequency Space Domain Randomization for Domain Generalization.** 6891-6902
- Xin Hong , Yanyan Lan, Liang Pang, Jiafeng Guo, Xueqi Cheng:  
**Transformation Driven Visual Reasoning.** 6903-6912
- Youngmin Oh, Beomjun Kim, Bumsuk Ham:  
**Background-Aware Pooling and Noise-Aware Loss for Weakly-Supervised Semantic Segmentation.** 6913-6922
- Abulikemu Abuduweili , Xingjian Li, Humphrey Shi , Cheng-Zhong Xu , Dejing Dou:  
**Adaptive Consistency Regularization for Semi-Supervised Transfer Learning.** 6923-6932
- Wenda Zhao, Cai Shang, Huchuan Lu:  
**Self-Generated Defocus Blur Detection via Dual Adversarial Discriminators.** 6933-6942
- Yanghao Li, Tushar Nagarajan, Bo Xiong, Kristen Grauman:  
**Ego-Exo: Transferring Visual Representations From Third-Person to First-Person Videos.** 6943-6953
- Yi Wei, Ziyi Wang, Yongming Rao, Jiwen Lu , Jie Zhou:  
**PV-RAFT: Point-Voxel Correlation Fields for Scene Flow Estimation of Point Clouds.** 6954-6963
- Rui Qian, Tianjian Meng, Boqing Gong, Ming-Hsuan Yang, Huisheng Wang, Serge J. Belongie , Yin Cui:  
**Spatiotemporal Contrastive Video Representation Learning.** 6964-6974
- Yanan Sun, Guanzhi Wang , Qiao Gu, Chi-Keung Tang, Yu-Wing Tai :  
**Deep Video Matting via Spatio-Temporal Alignment and Aggregation.** 6975-6984
- Tianfei Zhou, Jianwu Li, Xueyi Li, Ling Shao:  
**Target-Aware Object Discovery and Association for Unsupervised Video Multi-Object Segmentation.** 6985-6994
- Xin Yuan, Zhe Lin, Jason Kuen, Jianming Zhang, Yilin Wang, Michael Maire, Ajinkya Kale, Baldo Faieta:  
**Multimodal Contrastive Training for Visual Representation Learning.** 6995-7004
- Xudong Lin, Gedas Bertasius, Jue Wang, Shih-Fu Chang, Devi Parikh, Lorenzo Torresani:  
**Vx2Text: End-to-End Learning of Video-Based Text Generation From Multimodal Inputs.** 7005-7015
- Yanbei Chen, Yongqin Xian, A. Sophia Koepke, Ying Shan, Zeynep Akata:  
**Distilling Audio-Visual Knowledge by Compositional Contrastive Learning.** 7016-7025
- Hao Wang, Zheng-Jun Zha, Liang Li , Dong Liu, Jiebo Luo :  
**Structured Multi-Level Interaction Network for Video Moment Localization via Language Query.** 7026-7035
- Xiangru Lin, Guanbin Li, Yizhou Yu:  
**Scene-Intuitive Agent for Remote Embodied Visual Grounding.** 7036-7045
- Mingda Zhang, Tristan Maidment, Ahmad Diab, Adriana Kovashka, Rebecca Hwa :  
**Domain-Robust VQA With Diverse Datasets and Methods but No Target Labels.** 7046-7056
- Chaoyi Hong, Shuaiyuan Du, Ke Xian, Hao Lu, Zhiguo Cao, Weicai Zhong:  
**Composing Photos Like a Photographer.** 7057-7066
- Muhammad Waseem Ashraf, Waqas Sultani, Mubarak Shah :  
**Dogfight: Detecting Drones From Drones Videos.** 7067-7076
- Aditya Prakash, Kashyap Chitta, Andreas Geiger:  
**Multi-Modal Fusion Transformer for End-to-End Autonomous Driving.** 7077-7087
- Ayan Das, Yongxin Yang, Timothy M. Hospedales, Tao Xiang, Yi-Zhe Song:  
**Cloud2Curve: Generation and Vectorization of Parametric Sketches.** 7088-7097
- Shancheng Fang, Hongtao Xie, Yuxin Wang, Zhendong Mao, Yongdong Zhang:  
**Read Like Humans: Autonomous, Bidirectional and Iterative Language Modeling for Scene Text Recognition.** 7098-7107



Jiahui Huang, He Wang, Tolga Birdal , Minhyuk Sung , Federica Arrigoni , Shi-Min Hu, Leonidas J. Guibas: **MultiBodySync: Multi-Body Segmentation and Motion Estimation via 3D Scan Synchronization.** 7108-7118

Fanbo Xiang, Zexiang Xu, Milos Hasan, Yannick Hold-Geoffroy, Kalyan Sunkavalli, Hao Su: **NeuTex: Neural Texture Mapping for Volumetric Neural Rendering.** 7119-7128

Mohamed El Banani , Luya Gao, Justin Johnson: **UnsupervisedR&R: Unsupervised Point Cloud Registration via Differentiable Rendering.** 7129-7139

Zhidong Liang, Zehan Zhang, Ming Zhang , Xian Zhao, Shiliang Pu: **RangeloUDet: Range Image Based Real-Time 3D Object Detector Optimized by Intersection Over Union.** 7140-7149

George Cazenavette, Calvin Murdock, Simon Lucey : **Architectural Adversarial Robustness: The Case for Deep Pursuit.** 7150-7158

Ye Yuan, Shih-En Wei, Tomas Simon, Kris Kitani, Jason M. Saragih: **SimPoE: Simulated Character Control for 3D Human Pose Estimation.** 7159-7169

Shiyu Tan, Yicheng Wu, Shouo-I Yu, Ashok Veeraraghavan: **CodedStereo: Learned Phase Masks for Large Depth-of-Field Stereo.** 7170-7179

Zeyuan Chen, Yangchao Wang, Yang Yang, Dong Liu: **PSD: Principled Synthetic-to-Real Dehazing Guided by Physical Priors.** 7180-7189

Zhengqin Li, Ting-Wei Yu, Shen Sang, Sarah Wang, Meng Song, Yuhua Liu, Yu-Ying Yeh, Rui Zhu, Nitesh B. Gundavarapu, Jia Shi, Sai Bi, Hong-Xing Yu, Zexiang Xu, Kalyan Sunkavalli, Milos Hasan, Ravi Ramamoorthi, Manmohan Chandraker: **OpenRooms: An Open Framework for Photorealistic Indoor Scene Datasets.** 7190-7199

Keshigeyan Chandrasegaran, Ngoc-Trung Tran, Ngai-Man Cheung: **A Closer Look at Fourier Spectrum Discrepancies for CNN-Generated Images Detection.** 7200-7209

Ricardo Martin-Brualla, Noha Radwan, Mehdi S. M. Sajjadi, Jonathan T. Barron, Alexey Dosovitskiy, Daniel Duckworth: **NeRF in the Wild: Neural Radiance Fields for Unconstrained Photo Collections.** 7210-7219

Mingyu Yin, Li Sun, Qingli Li: **ID-Unet: Iterative Soft and Hard Deformation for View Synthesis.** 7220-7229

Yun Chen , Frieda Rong, Shivam Duggal, Shenlong Wang, Xincheng Yan, Sivabalan Manivasagam, Shangjie Xue, Ersin Yumer, Raquel Urtasun: **GeoSim: Realistic Video Simulation via Geometry-Aware Composition for Self-Driving.** 7230-7240

Islam Nassar, Samitha Herath, Ehsan Abbasnejad, Wray L. Buntine , Gholamreza Haffari: **All Labels Are Not Created Equal: Enhancing Semi-Supervision via Label Grouping and Co-Training.** 7241-7250

Weiyang Liu, Rongmei Lin, Zhen Liu, James M. Rehg, Liam Paull, Li Xiong, Le Song, Adrian Weller: **Orthogonal Over-Parameterized Training.** 7251-7260

Meng Ye, Mikael Kanski, Dong Yang, Qi Chang, Zhennan Yan, Qiaoying Huang, Leon Axel, Dimitris N. Metaxas: **DeepTag: An Unsupervised Deep Learning Method for Motion Tracking on Cardiac Tagging Magnetic Resonance Images.** 7261-7271

Bo Fu, Zhangjie Cao, Jianmin Wang , Mingsheng Long : **Transferable Query Selection for Active Domain Adaptation.** 7272-7281

Zhizhong Huang, Junping Zhang, Hongming Shan: **When Age-Invariant Face Recognition Meets Face Age Synthesis: A Multi-Task Learning Framework.** 7282-7291

Xingjian Zhen, Rudrasis Chakraborty, Vikas Singh: **Simpler Certified Radius Maximization by Propagating Covariances.** 7292-7301

Lorenzo Porzi, Samuel Rota Bulò, Peter Kontschieder: **Improving Panoptic Segmentation at All Scales.** 7302-7311

Lifeng Fan, Shuwen Qiu, Zilong Zheng, Tao Gao, Song-Chun Zhu, Yixin Zhu: **Learning Triadic Belief Dynamics in Nonverbal Communication From Videos.** 7312-7321

Yuk Heo, Yeong Jun Koh, Chang-Su Kim: **Guided Interactive Video Object Segmentation Using Reliability-Based Attention Maps.** 7322-7330

Jie Lei, Linjie Li, Luowei Zhou, Zhe Gan, Tamara L. Berg, Mohit Bansal, Jingjing Liu: **Less Is More: ClipBERT for Video-and-Language Learning via Sparse Sampling.** 7331-7341

Pradyumna Reddy, Michaël Gharbi, Michal Lukáč, Niloy J. Mitra: **Im2Vec: Synthesizing Vector Graphics Without Vector Supervision.** 7342-7351

Bo Sun, Banghuai Li, Shengcui Cai, Ye Yuan, Chi Zhang: **FSCE: Few-Shot Object Detection via Contrastive Proposal Encoding.** 7352-7362

Bohao Li, Boyu Yang , Chang Liu, Feng Liu , Rongrong Ji, Qixiang Ye: **Beyond Max-Margin: Class Margin Equilibrium for Few-Shot Object Detection.** 7363-7372

Xiyang Dai, Yinpeng Chen, Bin Xiao, Dongdong Chen, Mengchen Liu, Lu Yuan, Lei Zhang: **Dynamic Head: Unifying Object Detection Heads With Attentions.** 7373-7382

Nguyen Nguyen, Thu Nguyen, Vinh Tran, Minh-Triet Tran , Thanh Duc Ngo, Thien Huu Nguyen, Minh Hoai: **Dictionary-Guided Scene Text Recognition.** 7383-7392



- Pengwen Dai, Sanyi Zhang, Hua Zhang, Xiaochun Cao:  
**Progressive Contour Regression for Arbitrary-Shape Scene Text Detection.** 7393-7402
- Guangyu Guo, Junwei Han, Fang Wan, Dingwen Zhang:  
**Strengthen Learning Tolerance for Weakly Supervised Object Localization.** 7403-7412
- Zhenpei Yang, Li Erran Li, Qixing Huang:  
**StruMonoNet: Structure-Aware Monocular 3D Prediction.** 7413-7422
- Feng Liu, Luan Tran, Xiaoming Liu:  
**Fully Understanding Generic Objects: Modeling, Segmentation, and Reconstruction.** 7423-7433
- Yaadhav Raaj, Siddharth Ancha, Robert Tamburo, David Held, Srinivasa G. Narasimhan :  
**Exploiting & Refining Depth Distributions With Triangulation Light Curtains.** 7434-7442
- Xin Wen, Peng Xiang, Zhizhong Han, Yan-Pei Cao, Pengfei Wan, Wen Zheng, Yu-Shen Liu:  
**PMP-Net: Point Cloud Completion by Learning Multi-Step Point Moving Paths.** 7443-7452
- Jiahao Pang, Duanshun Li, Dong Tian:  
**TearingNet: Point Cloud Autoencoder To Learn Topology-Friendly Representations.** 7453-7462
- Xuran Pan, Zhuofan Xia , Shiji Song, Li Erran Li, Gao Huang:  
**3D Object Detection With Pointformer.** 7463-7472
- Marvin Eisenberger, David Novotný, Gael Kerchenbaum, Patrick Labatut, Natalia Neverova, Daniel Cremers , Andrea Vedaldi:  
**NeuroMorph: Unsupervised Shape Interpolation and Correspondence in One Go.** 7473-7483
- Alexey Bokhovkin, Vladislav Ishmitsev, Emil Bogomolov, Denis Zorin, Alexey Artemov, Evgeny Burnaev , Angela Dai:  
**Towards Part-Based Understanding of RGB-D Scans.** 7484-7494
- Pratul P. Srinivasan, Boyang Deng, Xiuming Zhang, Matthew Tancik, Ben Mildenhall, Jonathan T. Barron:  
**NeRV: Neural Reflectance and Visibility Fields for Relighting and View Synthesis.** 7495-7504
- Xin Li, Deng-Ping Fan , Fan Yang, Ao Luo, Hong Cheng, Zicheng Liu:  
**Probabilistic Model Distillation for Semantic Correspondence.** 7505-7514
- Shun-Cheng Wu , Johanna Wald, Keisuke Tateno, Nassir Navab, Federico Tombari:  
**SceneGraphFusion: Incremental 3D Scene Graph Prediction From RGB-D Sequences.** 7515-7525
- Jiayu Yang , José M. Álvarez, Miaomiao Liu:  
**Self-Supervised Learning of Depth Inference for Multi-View Stereo.** 7526-7534
- Kevin C. Zhou , Colin L. V. Cooke, Jaehye Park, Ruobing Qian, Roarke Horstmyer , Joseph A. Izatt, Sina Farsiu:  
**Mesoscopic Photogrammetry With an Unstabilized Phone Camera.** 7535-7545
- Zhichao Li, Feng Wang, Naiyan Wang:  
**LiDAR R-CNN: An Efficient and Universal 3D Object Detector.** 7546-7555
- Yunsong Zhou, Yuan He, Hongzi Zhu, Cheng Wang , Hongyang Li, Qinhong Jiang:  
**Monocular 3D Object Detection: An Extrinsic Parameter Free Approach.** 7556-7566
- Xitong Yang, Haoqi Fan, Lorenzo Torresani, Larry S. Davis, Heng Wang:  
**Beyond Short Clips: End-to-End Video-Level Learning With Collaborative Memories.** 7567-7576
- Yicheng Liu, Jinghuai Zhang, Liangji Fang, Qinhong Jiang, Bolei Zhou:  
**Multimodal Motion Prediction With Stacked Transformers.** 7577-7586
- Junwei Ma, Satya Krishna Gorti, Maksims Volkovs, Guang Wei Yu:  
**Weakly Supervised Action Selection Learning in Video.** 7587-7596
- Yunfeng Diao , Tianjia Shao, Yongliang Yang, Kun Zhou, He Wang:  
**BASAR: Black-Box Attack on Skeletal Action Recognition.** 7597-7607
- Pranjal Awasthi, George Yu, Chun-Sung Ferng, Andrew Tomkins, Da-Cheng Juan:  
**Adversarial Robustness Across Representation Spaces.** 7608-7616
- Vitor Albiero, Xingyu Chen, Xi Yin, Guan Pang, Tal Hassner:  
**img2pose: Face Alignment and Detection via 6DoF, Face Pose Estimation.** 7617-7627
- Baris Gecer, Jiankang Deng, Stefanos Zafeiriou:  
**OSTeC: One-Shot Texture Completion.** 7628-7638
- Shaofei Wang, Andreas Geiger, Siyu Tang :  
**Locally Aware Piecewise Transformation Fields for 3D Human Mesh Registration.** 7639-7648
- Yu Cheng, Bo Wang, Bo Yang, Robby T. Tan:  
**Monocular 3D Multi-Person Pose Estimation by Integrating Top-Down and Bottom-Up Networks.** 7649-7659
- Delian Ruan, Yan Yan, Shenqi Lai, Zhenhua Chai, Chunhua Shen, Hanzi Wang:  
**Feature Decomposition and Reconstruction Learning for Effective Facial Expression Recognition.** 7660-7669
- Fu-Zhao Ou , Xingyu Chen, Ruixin Zhang, Yuge Huang, Shaoxin Li, Jilin Li, Yong Li, Liujuan Cao, Yuan-Gen Wang:  
**SDD-FIQA: Unsupervised Face Image Quality Assessment With Similarity Distribution Distance.** 7670-7679
- Geethu Miriam Jacob, Björn Stenger:  
**Facial Action Unit Detection With Transformers.** 7680-7689



- Yichao Yan, Jinpeng Li, Jie Qin, Song Bai, Shengcai Liao, Li Liu, Fan Zhu, Ling Shao:  
**Anchor-Free Person Search.** 7690-7699
- Hao Ouyang, Zifan Shi, Chenyang Lei, Ka Lung Law, Qifeng Chen:  
**Neural Camera Simulators.** 7700-7709
- Emmanuel Onzon, Fahim Mannan, Felix Heide:  
**Neural Auto-Exposure for High-Dynamic Range Object Detection.** 7710-7720
- Dongxu Li, Chenchen Xu, Kaihao Zhang, Xin Yu , Yiran Zhong, Wenqi Ren, Hanna Suominen, Hongdong Li:  
**ARVo: Learning All-Range Volumetric Correspondence for Video Deblurring.** 7721-7731
- Huaibo Huang, Aijing Yu, Ran He:  
**Memory Oriented Transfer Learning for Semi-Supervised Image Deraining.** 7732-7741
- Chenghao Chen, Hao Li:  
**Robust Representation Learning With Feedback for Single Image Deraining.** 7742-7751
- Gang Fu, Qing Zhang, Lei Zhu, Ping Li, Chunxia Xiao:  
**A Multi-Task Network for Joint Specular Highlight Detection and Removal.** 7752-7761
- Yuchen Hong , Qian Zheng, Lingran Zhao , Xudong Jiang, Alex C. Kot, Boxin Shi:  
**Panoramic Image Reflection Removal.** 7762-7771
- Yongcheng Jing, Yiding Yang, Xinchao Wang , Mingli Song, Dacheng Tao:  
**Turning Frequency to Resolution: Video Super-Resolution via Event Cameras.** 7772-7781
- Sanghyun Son, Kyoung Mu Lee:  
**SRWarp: Generalized Image Super-Resolution under Arbitrary Transformation.** 7782-7791
- Baoli Sun, Xinchen Ye, Baopu Li, Haojie Li, Zhihui Wang, Rui Xu:  
**Learning Scene Structure Guidance via Cross-Task Knowledge Transfer for Single Depth Super-Resolution.** 7792-7801
- Maitreya Suin, A. N. Rajagopalan:  
**Gated Spatio-Temporal Attention-Guided Video Deblurring.** 7802-7811
- Longyin Wen, Dawei Du, Pengfei Zhu, Qinghua Hu, Qilong Wang, Liefeng Bo, Siwei Lyu:  
**Detection, Tracking, and Counting Meets Drones in Crowds: A Benchmark.** 7812-7821
- Adel Ahmadyan, Liangkai Zhang, Artsiom Ablavatski, Jianing Wei, Matthias Grundmann:  
**Objectron: A Large Scale Dataset of Object-Centric Videos in the Wild With Pose Annotations.** 7822-7831
- Shuang Li, Jimming Zhang, Wenxuan Ma, Chi Harold Liu, Wei Li:  
**Dynamic Domain Adaptation for Efficient Inference.** 7832-7841
- Xing Dai, Zeren Jiang, Zhao Wu, Yiping Bao, Zhicheng Wang, Si Liu, Erjin Zhou:  
**General Instance Distillation for Object Detection.** 7842-7851
- Yiman Zhang, Hanting Chen, Xinghao Chen , Yiping Deng, Chunjing Xu, Yunhe Wang:  
**Data-Free Knowledge Distillation for Image Super-Resolution.** 7852-7861
- Hyungjun Kim, Jihoon Park, Changhun Lee, Jae-Joon Kim:  
**Improving Accuracy of Binary Neural Networks Using Unbalanced Activation Distribution.** 7862-7871
- Hui-Po Wang, Ning Yu, Mario Fritz:  
**Hijack-GAN: Unintended-Use of Pretrained, Black-Box GANs.** 7872-7881
- Anjith George, Sébastien Marcel:  
**Cross Modal Focal Loss for RGBD Face Anti-Spoofing.** 7882-7891
- Shahbaz Rezaei , Xin Liu:  
**On the Difficulty of Membership Inference Attacks.** 7892-7900
- Nan Pu, Wei Chen, Yu Liu, Erwin M. Bakker, Michael S. Lew:  
**Lifelong Person Re-Identification via Adaptive Knowledge Accumulation.** 7901-7910
- Julian Chibane, Aayush Bansal, Verica Lazova, Gerard Pons-Moll:  
**Stereo Radiance Fields (SRF): Learning View Synthesis for Sparse Views of Novel Scenes.** 7911-7920
- Hung-Yu Tseng, Lu Jiang, Ce Liu, Ming-Hsuan Yang, Weilong Yang:  
**Regularizing Generative Adversarial Networks Under Limited Data.** 7921-7931
- Ali Tousi, Haedong Jeong, Jiyeon Han, Hwanil Choi, Jaesik Choi :  
**Automatic Correction of Internal Units in Generative Neural Networks.** 7932-7940
- Mahmoud Afifi, Marcus A. Brubaker , Michael S. Brown:  
**HistoGAN: Controlling Colors of GAN-Generated and Real Images via Color Histograms.** 7941-7950
- Zibo Zhao, Wen Liu , Yanyu Xu , Xianing Chen, Weixin Luo, Lei Jin, Bohui Zhu, Tong Liu, Binqiang Zhao, Shenghua Gao:  
**Prior Based Human Completion.** 7951-7961
- Zhentao Tan, Menglei Chai, Dongdong Chen, Jing Liao , Qi Chu, Bin Liu, Gang Hua, Nenghai Yu:  
**Diverse Semantic Image Synthesis via Probability Distribution Modeling.** 7962-7971
- Prashanth Chandran, Gaspard Zoss, Paulo F. U. Gotardo, Markus Gross, Derek Bradley:  
**Adaptive Convolutions for Structure-Aware Style Transfer.** 7972-7981



- Jinsong Zhang, Kun Li, Yu-Kun Lai, Jingyu Yang:  
**PISE: Person Image Synthesis and Editing With Decoupled GAN.** 7982-7990
- Bindita Chaudhuri, Nikolaos Sarafianos, Linda G. Shapiro, Tony Tung:  
**Semi-Supervised Synthesis of High-Resolution Editable Textures for 3D Humans.** 7991-8000
- Tianyu Ding, Luming Liang, Zhihui Zhu, Ilya Zharkov:  
**CDFI: Compression-Driven Network Design for Frame Interpolation.** 8001-8011
- Davis Wertheimer, Luming Tang, Bharath Hariharan:  
**Few-Shot Classification With Feature Map Reconstruction Networks.** 8012-8021
- Kento Nishi, Yi Ding, Alex Rich, Tobias Höllerer:  
**Augmentation Strategies for Learning With Noisy Labels.** 8022-8031
- Ningning Ma, Xiangyu Zhang, Ming Liu, Jian Sun:  
**Activate or Not: Learning Customized Activation.** 8032-8042
- Ravi Teja Mullapudi, Fait Poms, William R. Mark, Deva Ramanan , Kayvon Fatahalian:  
**Background Splitting: Finding Rare Classes in a Sea of Background.** 8043-8052
- Yi-Chen Lo, Chia-Che Chang, Hsuan-Chao Chiu, Yu-Hao Huang, Chia-Ping Chen, Yu-Lin Chang, Kevin Jou:  
**CLCC: Contrastive Learning for Color Constancy.** 8053-8063
- Jin Chen, Xijun Wang, Zichao Guo, Xiangyu Zhang, Jian Sun:  
**Dynamic Region-Aware Convolution.** 8064-8073
- Yiding Yang, Zhou Ren, Haoxiang Li, Chunluan Zhou, Xinchao Wang , Gang Hua:  
**Learning Dynamics via Graph Neural Networks for Human Pose Estimation and Tracking.** 8074-8084
- Sheng Li, Mingxing Tan, Ruoming Pang, Andrew Li, Liqun Cheng, Quoc V. Le, Norman P. Jouppi:  
**Searching for Fast Model Families on Datacenter Accelerators.** 8085-8095
- Shiyang Yan, Li Yu, Yuan Xie:  
**Discrete-Continuous Action Space Policy Gradient-Based Attention for Image-Text Matching.** 8096-8105
- Guillaume Jaume, Pushpak Pati, Behzad Bozorgtabar , Antonio Foncubierta, Anna Maria Anniciello, Florinda Feroce, Tilman Rau, Jean-Philippe Thiran , Maria Gabrani, Orcun Goksel:  
**Quantifying Explainers of Graph Neural Networks in Computational Pathology.** 8106-8116
- Botong Wu, Sijie Ren, Jing Li, Xinwei Sun , Shiming Li, Yizhou Wang:  
**Forecasting Irreversible Disease via Progression Learning.** 8117-8125
- Xin Chen, Bin Yan, Jiawen Zhu, Dong Wang, Xiaoyun Yang, Huchuan Lu:  
**Transformer Tracking.** 8126-8135
- Song Guo, Jingya Wang, Xinchao Wang , Dacheng Tao:  
**Online Multiple Object Tracking With Cross-Task Synergy.** 8136-8145
- Jiaxing Chen, Xinyang Jiang, Fudong Wang, Jun Zhang, Feng Zheng, Xing Sun, Wei-Shi Zheng:  
**Learning 3D Shape Feature for Texture-Insensitive Person Re-Identification.** 8146-8155
- Yaowei Zheng, Richong Zhang, Yongyi Mao:  
**Regularizing Neural Networks via Adversarial Model Perturbation.** 8156-8165
- Kwanyoung Kim, Dongwon Park, Kwang In Kim, Se Young Chun:  
**Task-Aware Variational Adversarial Active Learning.** 8166-8175
- Matthew J. Vowels , Necati Cihan Camgöz, Richard Bowden :  
**VDSM: Unsupervised Video Disentanglement With State-Space Modeling and Deep Mixtures of Experts.** 8176-8186
- Takashi Isobe, Xu Jia, Shuaijun Chen, Jianzhong He, Yongjie Shi, Jianzhuang Liu, Huchuan Lu, Shengjin Wang:  
**Multi-Target Domain Adaptation With Collaborative Consistency Learning.** 8187-8196
- Suman Saha, Anton Obukhov, Danda Pani Paudel , Menelaos Kanakis, Yuhua Chen, Stamatis Georgoulis, Luc Van Gool:  
**Learning To Relate Depth and Semantics for Unsupervised Domain Adaptation.** 8197-8207
- Xinjie Fan, Qifei Wang, Junjie Ke, Feng Yang, Boqing Gong, Mingyuan Zhou:  
**Adversarially Adaptive Normalization for Single Domain Generalization.** 8208-8217
- Jihwan Bang, Heesu Kim, Youngjoon Yoo, Jung-Woo Ha , Jonghyun Choi :  
**Rainbow Memory: Continual Learning With a Memory of Diverse Samples.** 8218-8227
- Mateusz Budnik, Yannis Avrithis:  
**Asymmetric Metric Learning for Knowledge Transfer.** 8228-8238
- Ruoxi Jia, Fan Wu, Xuehui Sun, Jiacen Xu, David Dao, Bhavya Kailkhura, Ce Zhang, Bo Li, Dawn Song:  
**Scalability vs. Utility: Do We Have To Sacrifice One for the Other in Data Importance Quantification?** 8239-8247
- Benjamin Eckart, Wentao Yuan , Chao Liu, Jan Kautz:  
**Self-Supervised Learning on 3D Point Clouds by Learning Discrete Generative Models.** 8248-8257
- Xiaoxiao Long, Lingjie Liu, Wei Li, Christian Theobalt , Wenping Wang:  
**Multi-view Depth Estimation using Epipolar Spatio-Temporal Networks.** 8258-8267
- Kranti Kumar Parida, Siddharth Srivastava, Gaurav Sharma:  
**Beyond Image to Depth: Improving Depth Prediction Using Echoes.** 8268-8277



- Hao Ding, Siyuan Qiao, Alan L. Yuille, Wei Shen:  
**Deeply Shape-Guided Cascade for Instance Segmentation.** 8278-8288
- Keren Ye, Adriana Kovashka:  
**Linguistic Structures As Weak Supervision for Visual Scene Graph Generation.** 8289-8299
- Daiqing Li, Junlin Yang, Karsten Kreis, Antonio Torralba, Sanja Fidler:  
**Semantic Segmentation With Generative Models: Semi-Supervised Learning and Strong Out-of-Domain Generalization.** 8300-8311
- Bingfeng Zhang , Jimin Xiao, Terry Qin:  
**Self-Guided and Cross-Guided Learning for Few-Shot Segmentation.** 8312-8321
- Jiayan Qiu, Yiding Yang, Xinchao Wang , Dacheng Tao:  
**Scene Essence.** 8322-8333
- Gen Li , Varun Jampani, Laura Sevilla-Lara, Deqing Sun, Jonghyun Kim , Joongkyu Kim:  
**Adaptive Prototype Learning and Allocation for Few-Shot Segmentation.** 8334-8343
- Rui Gong, Yuhua Chen, Danda Pani Paudel , Yawei Li , Ajad Chhatkuli, Wen Li, Dengxin Dai, Luc Van Gool:  
**Cluster, Split, Fuse, and Update: Meta-Learning for Open Compound Domain Adaptive Semantic Segmentation.** 8344-8354
- Shilong Liu, Lei Zhang, Xiao Yang, Hang Su, Jun Zhu:  
**Unsupervised Part Segmentation Through Disentangling Appearance and Shape.** 8355-8364
- Zhe Li , Yazan Abu Farha , Jürgen Gall:  
**Temporal Action Segmentation From Timestamp Supervision.** 8365-8374
- Zachary Teed, Jia Deng:  
**RAFT-3D: Scene Flow Using Rigid-Motion Embeddings.** 8375-8384
- Kumara Kahatapitiya, Michael S. Ryoo:  
**Coarse-Fine Networks for Temporal Activity Detection in Videos.** 8385-8394
- Xiaobin Chang, Frederick Tung, Greg Mori:  
**Learning Discriminative Prototypes With Dynamic Time Warping.** 8395-8404
- Hyojin Park, Jayeon Yoo, Seohyeong Jeong, Ganesh Venkatesh, Nojun Kwak:  
**Learning Dynamic Network Using a Reuse Gate Function in Semi-Supervised Video Object Segmentation.** 8405-8414
- Sanghyuk Chun, Seong Joon Oh, Rafael Sampaio de Rezende, Yannis Kalantidis, Diane Larlus:  
**Probabilistic Embeddings for Cross-Modal Retrieval.** 8415-8424
- Shaoxiang Chen, Yu-Gang Jiang:  
**Towards Bridging Event Captioner and Sentence Localizer for Weakly Supervised Dense Event Captioning.** 8425-8435
- Jinxing Zhou, Liang Zheng , Yiran Zhong, Shijie Hao, Meng Wang:  
**Positive Sample Propagation Along the Audio-Visual Event Line.** 8436-8444
- Hao Zhou , Chongyang Zhang, Yan Luo, Yanjun Chen, Chuiping Hu:  
**Embracing Uncertainty: Decoupling and De-Bias for Robust Temporal Grounding.** 8445-8454
- Hanqing Wang, Wenguan Wang , Wei Liang, Caiming Xiong, Jianbing Shen:  
**Structured Scene Memory for Vision-Language Navigation.** 8455-8464
- Aisha Urooj Khan, Hilde Kuehne , Kevin Duarte, Chuang Gan, Niels da Vitoria Lobo, Mubarak Shah :  
**Found a Reason for me? Weakly-supervised Grounded Visual Question Answering using Capsules.** 8465-8474
- Dongyu She, Yu-Kun Lai, Gaoxiong Yi, Kun Xu:  
**Hierarchical Layout-Aware Graph Convolutional Network for Unified Aesthetics Assessment.** 8475-8484
- Yuying Ge, Yibing Song, Ruimao Zhang , Chongjian Ge, Wei Liu, Ping Luo:  
**Parser-Free Virtual Try-On via Distilling Appearance Flows.** 8485-8493
- Elmira Amirloo Abolfathi, Mohsen Rohani, Ershad Banijamali, Jun Luo, Pascal Poupart:  
**Self-Supervised Simultaneous Multi-Step Prediction of Road Dynamics and Cost Map.** 8494-8503
- Aneeshan Sain , Ayan Kumar Bhunia, Yongxin Yang, Tao Xiang, Yi-Zhe Song :  
**StyleMeUp: Towards Style-Agnostic Sketch-Based Image Retrieval.** 8504-8513
- Haoyang Zhang, Ying Wang , Feras Dayoub , Niko Sünderhauf :  
**VarifocalNet: An IoU-Aware Dense Object Detector.** 8514-8523
- Liang Pan , Xinyi Chen, Zhongang Cai, Junzhe Zhang, Haiyu Zhao, Shuai Yi, Ziwei Liu:  
**Variational Relational Point Completion Network.** 8524-8533
- Suttisak Wizadwongsu, Pakkapon Phongthawee, Jiraphon Yenphraphai, Supasorn Suwajanakorn:  
**NeX: Real-Time View Synthesis With Neural Basis Expansion.** 8534-8543
- Siyan Dong, Qingnan Fan, He Wang, Ji Shi, Li Yi, Thomas A. Funkhouser, Baoquan Chen, Leonidas J. Guibas:  
**Robust Neural Routing Through Space Partitions for Camera Relocalization in Dynamic Indoor Environments.** 8544-8554
- Cody Reading, Ali Harakeh, Julia Chae, Steven L. Waslander:  
**Categorical Depth Distribution Network for Monocular 3D Object Detection.** 8555-8564

-      Jiakai Wang, Aishan Liu, Zixin Yin, Shunchang Liu, Shiyu Tang, Xianglong Liu : **Dual Attention Suppression Attack: Generate Adversarial Camouflage in Physical World.** 8565-8574
-     Kehong Gong, Jianfeng Zhang, Jiashi Feng: **PoseAug: A Differentiable Pose Augmentation Framework for 3D Human Pose Estimation.** 8575-8584
-     Atul Ingle, Trevor Seets, Mauro Buttafava, Shantanu Gupta, Alberto Tosi, Mohit Gupta, Andreas Velten: **Passive Inter-Photon Imaging.** 8585-8595
-     Chao Ren, Xiaohai He, Chuncheng Wang, Zhibo Zhao: **Adaptive Consistency Prior Based Deep Network for Image Denoising.** 8596-8606
-     Changlin Li, Guangrun Wang, Bing Wang, Xiaodan Liang, Zhihui Li, Xiaojun Chang : **Dynamic Slimmable Network.** 8607-8617
-     Julián Tachella, Junqi Tang , Mike E. Davies: **The Neural Tangent Link Between CNN Denoisers and Non-Local Filters.** 8618-8627
-     Yinbo Chen, Sifei Liu , Xiaolong Wang: **Learning Continuous Image Representation With Local Implicit Image Function.** 8628-8638
-     Xinyang Li, Shengchuan Zhang, Jie Hu, Liujuan Cao, Xiaopeng Hong, Xudong Mao, Feiyue Huang, Yongjian Wu, Rongrong Ji: **Image-to-Image Translation via Hierarchical Style Disentanglement.** 8639-8648
-     Guy Gafni, Justus Thies, Michael Zollhöfer, Matthias Nießner: **Dynamic Neural Radiance Fields for Monocular 4D Facial Avatar Reconstruction.** 8649-8658
-     Tong Wu, Ziwei Liu, Qingqiu Huang, Yu Wang, Dahua Lin: **Adversarial Robustness Under Long-Tailed Distribution.** 8659-8668
-     Shang-Hua Gao, Qi Han, Duo Li, Ming-Ming Cheng , Pai Peng: **Representative Batch Normalization With Feature Calibration.** 8669-8679
-     Yang Fu, Sifei Liu , Umar Iqbal, Shalini De Mello, Humphrey Shi , Jan Kautz: **Learning to Track Instances without Video Annotations.** 8680-8689
-     Hyeonseob Nam, Hyunjae Lee, Jongchan Park, Wonjun Yoon, Donggeun Yoo: **Reducing Domain Gap by Reducing Style Bias.** 8690-8699
-     Yao Lu, Sören Pirk, Jan Dlabař, Anthony Brohan, Ankita Pasad, Zhao Chen, Vincent Casser, Anelia Angelova, Ariel Gordon: **Taskology: Utilizing Task Relations at Scale.** 8700-8709
-     Rui Huang, Yixuan Li: **MOS: Towards Scaling Out-of-Distribution Detection for Large Semantic Space.** 8710-8719
-     Xing Shen, Jirui Yang, Chunbo Wei, Bing Deng, Jianqiang Huang, Xian-Sheng Hua, Xiaoliang Cheng, Kewei Liang: **DCT-Mask: Discrete Cosine Transform Mask Representation for Instance Segmentation.** 8720-8729
-     Guy Bukchin, Eli Schwartz, Kate Saenko , Ori Shahar, Rogério Feris, Raja Giryes, Leonid Karlinsky: **Fine-Grained Angular Contrastive Learning With Coarse Labels.** 8730-8740
-     Yuqing Wang, Zhaoliang Xu, Xinlong Wang, Chunhua Shen, Baoshan Cheng, Hao Shen, Huaxia Xia: **End-to-End Video Instance Segmentation With Transformers.** 8741-8750
-     Zhengyuan Yang, Yijuan Lu, Jianfeng Wang, Xi Yin, Dinei Florêncio, Lijuan Wang, Cha Zhang, Lei Zhang, Jiebo Luo : **TAP: Text-Aware Pre-Training for Text-VQA and Text-Caption.** 8751-8761
-     Shanchuan Lin, Andrey Ryabtsev, Soumyadip Sengupta, Brian L. Curless, Steven M. Seitz, Ira Kemelmacher-Shlizerman: **Real-Time High-Resolution Background Matting.** 8762-8771
-     Haiyang Mei, Ge-Peng Ji, Ziqi Wei, Xin Yang, Xiaopeng Wei, Deng-Ping Fan : **Camouflaged Object Segmentation With Distraction Mining.** 8772-8781
-     Chenchen Zhu, Fangyi Chen, Uzair Ahmed, Zhiqiang Shen, Marios Savvides: **Semantic Relation Reasoning for Shot-Stable Few-Shot Object Detection.** 8782-8791
-     Zonghao Guo, Chang Liu, Xiaosong Zhang, Jianbin Jiao, Xiangyang Ji, Qixiang Ye: **Beyond Bounding-Box: Convex-Hull Feature Adaptation for Oriented and Densely Packed Object Detection.** 8792-8801
-     Amanpreet Singh, Guan Pang, Mandy Toh, Jing Huang , Wojciech Galuba, Tal Hassner: **TextOCR: Towards Large-Scale End-to-End Reasoning for Arbitrary-Shaped Scene Text.** 8802-8812
-     Minghang He, Minghui Liao, Zhibo Yang, Humen Zhong, Jun Tang, Wenqing Cheng, Cong Yao, Yongpan Wang, Xiang Bai: **MOST: A Multi-Oriented Scene Text Detector With Localization Refinement.** 8813-8822
-     Liangyu Chen, Tong Yang, Xiangyu Zhang, Wei Zhang, Jian Sun: **Points As Queries: Weakly Semi-Supervised Object Detection by Points.** 8823-8832
-     Cheng Zhang, Zhaopeng Cui, Yinda Zhang, Bing Zeng, Marc Pollefeys , Shuaicheng Liu : **Holistic 3D Scene Understanding From a Single Image With Implicit Representation.** 8833-8842
-     Yufei Ye, Shubham Tulsiani, Abhinav Gupta: **Shelf-Supervised Mesh Prediction in the Wild.** 8843-8852
-     Ran Song, Wei Zhang, Yitian Zhao, Yonghuai Liu , Paul L. Rosin: **Mesh Saliency: An Independent Perceptual Measure or a Derivative of Image Saliency?** 8853-8862



- Chao Huang, Zhangjie Cao, Yunbo Wang, Jianmin Wang Mingsheng Long :  
**MetaSets: Meta-Learning on Point Sets for Generalizable Representations.** 8863-8872
- Na Zhao, Tat-Seng Chua, Gim Hee Lee:  
**Few-Shot 3D Point Cloud Semantic Segmentation.** 8873-8882
- Biao Zhang , Peter Wonka:  
**Point Cloud Instance Segmentation Using Probabilistic Embeddings.** 8883-8892
- Kexue Fu, Shaolei Liu , Xiaoyuan Luo, Manning Wang:  
**Robust Point Cloud Registration Framework Based on Deep Graph Matching.** 8893-8902
- Quin Thames, Arjun Karpur, Wade Norris, Fangting Xia, Liviu Panait, Tobias Weyand, Jack Sim:  
**Nutrition5k: Towards Automatic Nutritional Understanding of Generic Food.** 8903-8911
- Numair Khan , Min H. Kim, James Tompkin :  
**Differentiable Diffusion for Dense Depth Estimation From Multi-View Images.** 8912-8921
- Jiaming Sun , Zehong Shen, Yuang Wang, Hujun Bao, Xiaowei Zhou:  
**LoFTR: Detector-Free Local Feature Matching With Transformers.** 8922-8931
- Jiahui Huang, Shi-Sheng Huang, Haoxuan Song, Shi-Min Hu:  
**DI-Fusion: Online Implicit 3D Reconstruction With Deep Priors.** 8932-8941
- Fabio Tosi, Yiyi Liao, Carolin Schmitt, Andreas Geiger:  
**SMD-Nets: Stereo Mixture Density Networks.** 8942-8952
- Jianyuan Wang, Yiran Zhong, Yuchao Dai, Stan Birchfield, Kaihao Zhang, Nikolai Smolyanskiy, Hongdong Li:  
**Deep Two-View Structure-From-Motion Revisited.** 8953-8962
- Bowen Cheng , Lu Sheng , Shaoshuai Shi, Ming Yang, Dong Xu:  
**Back-Tracing Representative Points for Voting-Based 3D Object Detection in Point Clouds.** 8963-8972
- Abhinav Kumar, Garrick Brazil, Xiaoming Liu:  
**GroMeD-NMS: Grouped Mathematically Differentiable NMS for Monocular 3D Object Detection.** 8973-8983
- Jiaming Zhou, Kun-Yu Lin , Haoxin Li, Wei-Shi Zheng:  
**Graph-Based High-Order Relation Modeling for Long-Term Action Recognition.** 8984-8993
- Liushuai Shi, Le Wang, Chengjiang Long, Sanping Zhou, Mo Zhou, Zhenxing Niu, Gang Hua:  
**SGCN: Sparse Graph Convolution Network for Pedestrian Trajectory Prediction.** 8994-9003
- Mingfei Chen, Yue Liao, Si Liu, Zhiyuan Chen , Fei Wang, Chen Qian:  
**Reformulating HOI Detection As Adaptive Set Prediction.** 9004-9013
- Zhikai Chen, Lingxi Xie, Shanmin Pang, Yong He, Bo Zhang:  
**MagDR: Mask-Guided Detection and Reconstruction for Defending Deepfakes.** 9014-9023
- Weibin Wu , Yuxin Su, Michael R. Lyu, Irwin King :  
**Improving the Transferability of Adversarial Samples With Adversarial Transformations.** 9024-9033
- Weian Mao, Zhi Tian, Xinlong Wang, Chunhua Shen:  
**FCPose: Fully Convolutional Multi-Person Pose Estimation With Dynamic Instance-Aware Convolutions.** 9034-9043
- Yu-Wei Chao, Wei Yang, Yu Xiang, Pavlo Molchanov, Ankur Handa, Jonathan Tremblay, Yashraj S. Narang, Karl Van Wyk, Umar Iqbal, Stan Birchfield, Jan Kautz, Dieter Fox:  
**DexYCB: A Benchmark for Capturing Hand Grasping of Objects.** 9044-9053
- Sida Peng, Yuanqing Zhang, Yinghao Xu, Qianqian Wang, Qing Shuai, Hujun Bao, Xiaowei Zhou:  
**Neural Body: Implicit Neural Representations With Structured Latent Codes for Novel View Synthesis of Dynamic Humans.** 9054-9063
- Frank Yu, Mathieu Salzmann, Pascal Fua, Helge Rhodin:  
**PCLs: Geometry-Aware Neural Reconstruction of 3D Pose With Perspective Crop Layers.** 9064-9073
- Enrique Sanchez, Mani Kumar Tellamekala, Michel F. Valstar, Georgios Tzimiropoulos:  
**Affective Processes: Stochastic Modelling of Temporal Context for Emotion and Facial Expression Recognition.** 9074-9084
- Shuai Shen, Wanhu Li , Zheng Zhu, Guan Huang, Dalong Du, Jiwen Lu , Jie Zhou:  
**Structure-Aware Face Clustering on a Large-Scale Graph With 107 Nodes.** 9085-9094
- Shaoxiong Zhang, Yunhong Wang, Annan Li :  
**Cross-View Gait Recognition With Deep Universal Linear Embeddings.** 9095-9104
- Tianyu He , Xu Shen, Jianqiang Huang, Zhibo Chen, Xian-Sheng Hua:  
**Partial Person Re-Identification With Part-Part Correspondence Learning.** 9105-9115
- Ilya Chugunov, Seung-Hwan Baek , Qiang Fu , Wolfgang Heidrich, Felix Heide:  
**Mask-ToF: Learning Microlens Masks for Flying Pixel Correction in Time-of-Flight Imaging.** 9116-9126
- Haiquan Qiu, Yao Wang, Deyu Meng:  
**Effective Snapshot Compressive-Spectral Imaging via Deep Denoising and Total Variation Priors.** 9127-9136
- Zhixiang Chi, Yang Wang, Yuanhao Yu , Jin Tang:  
**Test-Time Fast Adaptation for Dynamic Scene Deblurring via Meta-Auxiliary Learning.** 9137-9146



- Ruijie Quan, Xin Yu , Yuanzhi Liang, Yi Yang:  
**Removing Raindrops and Rain Streaks in One Go.** 9147-9156
- Mahmoud Afifi, Konstantinos G. Derpanis, Björn Ommer, Michael S. Brown:  
**Learning Multi-Scale Photo Exposure Correction.** 9157-9167
- Xintao Wang, Yu Li , Honglun Zhang, Ying Shan:  
**Towards Real-World Blind Face Restoration With Generative Facial Prior.** 9168-9178
- Yuqian Zhou, David Ren, Neil Emerton, Sehoon Lim, Timothy A. Large:  
**Image Restoration for Under-Display Camera.** 9179-9188
- Xin Deng, Hao Wang, Mai Xu, Yichen Guo, Yuhang Song , Li Yang:  
**LAU-Net: Latitude Adaptive Upscaling Network for Omnidirectional Image Super-Resolution.** 9189-9198
- Jinjin Gu , Chao Dong:  
**Interpreting Super-Resolution Networks With Local Attribution Maps.** 9199-9208
- Goutam Bhat, Martin Danelljan, Luc Van Gool, Radu Timofte :  
**Deep Burst Super-Resolution.** 9209-9218
- Zhihang Zhong, Yinqiang Zheng , Imari Sato:  
**Towards Rolling Shutter Correction and Deblurring in Dynamic Scenes.** 9219-9228
- Lingzhi He, Hongguang Zhu, Feng Li, Huihui Bai, Runmin Cong, Chunjie Zhang, Chunyu Lin, Meiqin Liu, Yao Zhao:  
**Towards Fast and Accurate Real-World Depth Super-Resolution: Benchmark Dataset and Baseline.** 9229-9238
- Xinyi Zhang, Hang Dong, Jinshan Pan, Chao Zhu, Ying Tai , Chengjie Wang, Jilin Li, Feiyue Huang, Fei Wang :  
**Learning To Restore Hazy Video: A New Real-World Dataset and a New Method.** 9239-9248
- Mateusz Malinowski, Dimitrios Vytiniotis, Grzegorz Swirszcz, Viorica Patraucean, João Carreira:  
**Gradient Forward-Propagation for Large-Scale Temporal Video Modelling.** 9249-9259
- Jinguo Zhu, Shixiang Tang, Dapeng Chen, Shijie Yu, Yakun Liu, Mingzhe Rong, Aijun Yang, Xiaohua Wang:  
**Complementary Relation Contrastive Distillation.** 9260-9269
- Shangqian Gao, Feihu Huang, Weidong Cai , Heng Huang:  
**Network Pruning via Performance Maximization.** 9270-9280
- Sijie Zhao, Tao Yue, Xuemei Hu:  
**Distribution-Aware Adaptive Multi-Bit Quantization.** 9281-9290
- Norman Makoto Su, David J. Crandall:  
**The Affective Growth of Computer Vision.** 9291-9300
- Vikram V. Ramaswamy , Sunnie S. Y. Kim, Olga Russakovsky:  
**Fair Attribute Classification Through Latent Space De-Biasing.** 9301-9310
- Jingwei Sun , Ang Li, Binghui Wang, Huanrui Yang, Hai Li, Yiran Chen:  
**Soteria: Provable Defense Against Privacy Leakage in Federated Learning From Representation Perspective.** 9311-9319
- Wenzhao Zheng, Chengkun Wang, Jiwen Lu , Jie Zhou:  
**Deep Compositional Metric Learning.** 9320-9329
- Mariem Mezghanni, Malika Boulkenafed, André Lieutier, Maks Ovsjanikov:  
**Physically-Aware Generative Network for 3D Shape Modeling.** 9330-9341
- Guillaume Le Moing, Tuan-Hung Vu, Himalaya Jain, Patrick Pérez, Matthieu Cord:  
**Semantic Palette: Guiding Scene Generation With Class Proportions.** 9342-9350
- Jianjin Xu , Changxi Zheng:  
**Linear Semantics in Generative Adversarial Networks.** 9351-9360
- Jun Ling, Han Xue, Li Song, Rong Xie, Xiao Gu:  
**Region-Aware Adaptive Instance Normalization for Image Harmonization.** 9361-9370
- Hongyu Liu, Ziyu Wan, Wei Huang, Yibing Song, Xintong Han, Jing Liao :  
**PD-GAN: Probabilistic Diverse GAN for Image Inpainting.** 9371-9381
- Nikolai Kalischek, Jan D. Wegner, Konrad Schindler:  
**In the Light of Feature Distributions: Moment Matching for Neural Style Transfer.** 9382-9391
- Jie Liang, Hui Zeng, Lei Zhang:  
**High-Resolution Photorealistic Image Translation in Real-Time: A Laplacian Pyramid Translation Network.** 9392-9400
- Jiashun Wang, Huazhe Xu, Jingwei Xu, Sifei Liu , Xiaolong Wang:  
**Synthesizing Long-Term 3D Human Motion and Interaction in 3D Scenes.** 9401-9411
- Eric Heitz, Kenneth Vanhoey, Thomas Chambon, Laurent Belcour:  
**A Sliced Wasserstein Loss for Neural Texture Synthesis.** 9412-9420
- Wenqi Xian, Jia-Bin Huang, Johannes Kopf, Changil Kim:  
**Space-Time Neural Irradiance Fields for Free-Viewpoint Video.** 9421-9431
- Hongguang Zhang, Piotr Koniusz, Songlei Jian , Hongdong Li , Philip H. S. Torr:  
**Rethinking Class Relations: Absolute-Relative Supervised and Unsupervised Few-Shot Learning.** 9432-9441



- Youngdong Kim, Juseung Yun, Hyounguk Shon, Junmo Kim:  
**Joint Negative and Positive Learning for Noisy Labels.** 9442-9451
- Alireza Zaeemzadeh, Niccoló Bisagno , Zeno Sambugaro, Nicola Conci , Nazanin Rahnavard, Mubarak Shah :  
**Out-of-Distribution Detection Using Union of 1-Dimensional Subspaces.** 9452-9461
- Zhun Zhong, Linchao Zhu, Zhiming Luo, Shaozi Li, Yi Yang, Nicu Sebe :  
**OpenMix: Reviving Known Knowledge for Discovering Novel Visual Categories in an Open World.** 9462-9470
- Wei Ji , Jingjing Li, Shuang Yu, Miao Zhang, Yongri Piao, Shunyu Yao, Qi Bi, Kai Ma, Yefeng Zheng, Huchuan Lu, Li Cheng:  
**Calibrated RGB-D Salient Object Detection.** 9471-9481
- Oren Nuriel, Sagie Benaim, Lior Wolf:  
**Permuted AdaIN: Reducing the Bias Towards Global Statistics in Image Classification.** 9482-9491
- Mehdi Bahri, Gaétan Bahl, Stefanos Zafeiriou:  
**Binary Graph Neural Networks.** 9492-9501
- Yaofo Chen, Yong Guo, Qi Chen, Minli Li, Wei Zeng , Yaowei Wang, Mingkui Tan:  
**Contrastive Neural Architecture Search With Neural Architecture Comparators.** 9502-9511
- Lei Huang, Yi Zhou, Li Liu, Fan Zhu, Ling Shao:  
**Group Whitening: Balancing Learning Efficiency and Representational Capacity.** 9512-9521
- Daochang Liu , Qiyue Li, Tingting Jiang , Yizhou Wang, Rulin Miao, Fei Shan, Ziyu Li:  
**Towards Unified Surgical Skill Assessment.** 9522-9531
- Simon Reiß, Constantin Seibold, Alexander Freytag, Erik Rodner, Rainer Stiefelhagen:  
**Every Annotation Counts: Multi-Label Deep Supervision for Medical Image Segmentation.** 9532-9542
- Dongyan Guo, Yanyan Shao, Ying Cui , Zhenhua Wang, Liyan Zhang, Chunhua Shen:  
**Graph Attention Tracking.** 9543-9552
- Chanho Kim, Fuxin Li, Mazen Alotaibi, James M. Rehg:  
**Discriminative Appearance Modeling With Multi-Track Pooling for Real-Time Multi-Object Tracking.** 9553-9562
- Yukang Chen, Yanwei Li, Tao Kong, Lu Qi, Ruihang Chu, Lei Li , Jiaya Jia:  
**Scale-Aware Automatic Augmentation for Object Detection.** 9563-9572
- Zhongwen Zhang, Dmitrii Marin, Maria Drangova , Yuri Boykov:  
**Confluent Vessel Trees With Accurate Bifurcations.** 9573-9582
- Razvan Caramalau, Binod Bhattacharai , Tae-Kyun Kim :  
**Sequential Graph Convolutional Network for Active Learning.** 9583-9592
- Mengyue Yang, Furui Liu, Zhitang Chen, Xinwei Shen, Jianye Hao, Jun Wang:  
**CausalVAE: Disentangled Representation Learning via Neural Structural Causal Models.** 9593-9602
- Yu Wang, Rui Zhang, Shuo Zhang, Miao Li, Yangyang Xia, Xishan Zhang, Shaoli Liu:  
**Domain-Specific Suppression for Adaptive Object Detection.** 9603-9612
- Prabhu Teja Sivaprasad, François Fleuret:  
**Uncertainty Reduction for Model Adaptation in Semantic Segmentation.** 9613-9623
- Yang Shu, Zhangjie Cao, Chenyu Wang , Jianmin Wang , Mingsheng Long :  
**Open Domain Generalization with Domain-Augmented Meta-Learning.** 9624-9633
- Shixiang Tang, Dapeng Chen, Jinguo Zhu, Shijie Yu, Wanli Ouyang:  
**Layerwise Optimization by Gradient Decomposition for Continual Learning.** 9634-9643
- Jiali Duan, Yen-Liang Lin, Son Dinh Tran, Larry S. Davis, C.-C. Jay Kuo:  
**SLADE: A Self-Training Framework for Distance Metric Learning.** 9644-9653
- Haiyang Zhang, XiMing Xing , Liang Liu:  
**DualGraph: A Graph-Based Method for Reasoning About Label Noise.** 9654-9663
- Chun-Liang Li, Kihyuk Sohn, Jinsung Yoon, Tomas Pfister:  
**CutPaste: Self-Supervised Learning for Anomaly Detection and Localization.** 9664-9674
- Yujiao Shi, Hongdong Li, Xin Yu :  
**Self-Supervised Visibility Learning for Novel View Synthesis.** 9675-9684
- S. Mahdi H. Miangoleh, Sebastian Dille, Long Mai, Sylvain Paris, Yagiz Aksoy:  
**Boosting Monocular Depth Estimation Models to High-Resolution via Content-Adaptive Multi-Resolution Merging.** 9685-9694
- Jiaqi Wang, Wenwei Zhang, Yuhang Zang, Yuhang Cao, Jiangmiao Pang, Tao Gong, Kai Chen, Ziwei Liu, Chen Change Loy, Dahua Lin:  
**Seesaw Loss for Long-Tailed Instance Segmentation.** 9695-9704
- Chaoyi Zhang, Jianhui Yu, Yang Song , Weidong Cai:  
**Exploiting Edge-Oriented Reasoning for 3D Point-Based Scene Graph Analysis.** 9705-9715
- Mingyuan Fan, Shenqi Lai, Junshi Huang, Xiaoming Wei, Zhenhua Chai, Junfeng Luo, Xiaolin Wei:  
**Rethinking BiSeNet for Real-Time Semantic Segmentation.** 9716-9725
- Mingyuan Liu , Dan Schonfeld, Wei Tang:  
**Exploit Visual Dependency Relations for Semantic Segmentation.** 9726-9735



- Chi Zhang, Baoxiong Jia, Song-Chun Zhu, Yixin Zhu:  
**Abstract Spatial-Temporal Reasoning via Probabilistic Abduction and Execution.** 9736-9746
- Binghao Liu, Yao Ding, Jianbin Jiao, Xiangyang Ji, Qixiang Ye:  
**Anti-Aliasing Semantic Reconstruction for Few-Shot Semantic Segmentation.** 9747-9756
- Guangrui Li, Guoliang Kang, Yi Zhu, Yunchao Wei, Yi Yang:  
**Domain Consensus Clustering for Universal Domain Adaptation.** 9757-9766
- Zefan Li, Chenxi Liu, Alan L. Yuille, Bingbing Ni, Wenjun Zhang, Wen Gao:  
**Progressive Stage-Wise Learning for Unsupervised Feature Representation Enhancement.** 9767-9776
- Junbin Xiao, Xindi Shang, Angela Yao, Tat-Seng Chua:  
**NExT-QA: Next Phase of Question-Answering to Explaining Temporal Actions.** 9777-9786
- Xiaolin Song , Sicheng Zhao, Jingyu Yang, Huanjing Yue, Pengfei Xu, Runbo Hu, Hua Chai:  
**Spatio-temporal Contrastive Domain Adaptation for Action Recognition.** 9787-9795
- Shixing Chen, Xiaohan Nie, David Fan , Dongqing Zhang, Vimal Bhat, Raffay Hamid:  
**Shot Contrastive Self-Supervised Learning for Scene Boundary Detection.** 9796-9805
- Jun Li, Sinisa Todorovic:  
**Anchor-Constrained Viterbi for Set-Supervised Action Segmentation.** 9806-9815
- Dongfang Liu, Yiming Cui, Wenbo Tan, Yingjie Victor Chen:  
**SG-Net: Spatial Granularity Network for One-Stage Video Instance Segmentation.** 9816-9825
- Antoine Miech, Jean-Baptiste Alayrac, Ivan Laptev, Josef Sivic, Andrew Zisserman:  
**Thinking Fast and Slow: Efficient Text-to-Visual Retrieval With Transformers.** 9826-9836
- Ziqi Zhang, Zhongang Qi, Chunfeng Yuan, Ying Shan, Bing Li, Ying Deng, Weiming Hu:  
**Open-Book Video Captioning With Retrieve-Copy-Generate Network.** 9837-9846
- Xu Yang, Hanwang Zhang , Guojun Qi, Jianfei Cai:  
**Causal Attention for Vision-Language Tasks.** 9847-9857
- Ya Jing, Tao Kong, Wei Wang, Liang Wang, Lei Li , Tieniu Tan:  
**Locate Then Segment: A Strong Pipeline for Referring Image Segmentation.** 9858-9867
- Kuo-Hao Zeng, Luca Weihs, Ali Farhadi, Roozbeh Mottaghi:  
**Pushing It Out of the Way: Interactive Visual Navigation.** 9868-9877
- Li Xu, He Huang, Jun Liu:  
**SUTD-TrafficQA: A Question Answering Benchmark and an Efficient Network for Video Reasoning Over Traffic Events.** 9878-9888
- Lvmin Zhang, Chengze Li, Edgar Simo-Serra, Yi Ji, Tien-Tsin Wong, Chunping Liu:  
**User-Guided Line Art Flat Filling With Split Filling Mechanism.** 9889-9898
- Fan Yang, Guosheng Lin:  
**CT-Net: Complementary Transferring Network for Garment Transfer With Arbitrary Geometric Changes.** 9899-9908
- Jingkang Wang, Ava Pun, James Tu, Sivabalan Manivasagam, Abbas Sadat, Sergio Casas, Mengye Ren, Raquel Urtasun:  
**AdvSim: Generating Safety-Critical Scenarios for Self-Driving Vehicles.** 9909-9918
- Mihai Fieraru, Mihai Zanfir, Silviu Cristian Pirlea, Vlad Olaru, Cristian Sminchisescu:  
**AlFit: Automatic 3D Human-Interpretable Feedback Models for Fitness Training.** 9919-9928
- Luwei Hou, Yu Zhang, Kui Fu, Jia Li:  
**Informative and Consistent Correspondence Mining for Cross-Domain Weakly Supervised Object Detection.** 9929-9938
- Xinge Zhu, Hui Zhou, Tai Wang, Fangzhou Hong, Yuexin Ma, Wei Li, Hongsheng Li, Dahua Lin:  
**Cylindrical and Asymmetrical 3D Convolution Networks for LiDAR Segmentation.** 9939-9948
- Francis Williams, Matthew Trager, Joan Bruna, Denis Zorin:  
**Neural Splines: Fitting 3D Surfaces With Infinitely-Wide Neural Networks.** 9949-9958
- Yaxuan Zhu, Ruiqi Gao, Siyuan Huang, Song-Chun Zhu, Ying Nian Wu:  
**Learning Neural Representation of Camera Pose with Matrix Representation of Pose Shift via View Synthesis.** 9959-9968
- Wang Luo, Tianzhu Zhang, Wenfei Yang, Jingen Liu, Tao Mei, Feng Wu, Yongdong Zhang:  
**Action Unit Memory Network for Weakly Supervised Temporal Action Localization.** 9969-9979
- Rakshit Sunil Kothari, Shalini De Mello, Umar Iqbal, Wonmin Byeon, Seonwook Park , Jan Kautz:  
**Weakly-Supervised Physically Unconstrained Gaze Estimation.** 9980-9989
- Lea Müller, Ahmed A. A. Osman, Siyu Tang , Chun-Hao P. Huang, Michael J. Black:  
**On Self-Contact and Human Pose.** 9990-9999
- Jinhui Xiong , Jian Wang, Wolfgang Heidrich , Shree K. Nayar:  
**Seeing in Extra Darkness Using a Deep-Red Flash.** 10000-10009
- Zhen Cheng, Zhiwei Xiong, Chang Chen, Dong Liu , Zheng-Jun Zha:  
**Light Field Super-Resolution With Zero-Shot Learning.** 10010-10019



- Alejandro Hernandez Ruiz, Armand Vilalta, Francesc Moreno-Noguer: **Neural Cellular Automata Manifold.** 10020-10028
- Moritz Böhle, Mario Fritz, Bernt Schiele : **Convolutional Dynamic Alignment Networks for Interpretable Classifications.** 10029-10038
- Ting-Chun Wang, Arun Mallya, Ming-Yu Liu: **One-Shot Free-View Neural Talking-Head Synthesis for Video Conferencing.** 10039-10049
- Katie Luo, Guandao Yang, Wenqi Xian, Harald Haraldsson, Bharath Hariharan, Serge J. Belongie : **Stay Positive: Non-Negative Image Synthesis for Augmented Reality.** 10050-10060
- Willi Menapace, Stéphane Lathuilière, Sergey Tulyakov, Aliaksandr Siarohin, Elisa Ricci : **Playable Video Generation.** 10061-10070
- Aixuan Li, Jing Zhang, Yunqiu Lv , Bowen Liu, Tong Zhang, Yuchao Dai: **Uncertainty-Aware Joint Salient Object and Camouflaged Object Detection.** 10071-10081
- Peirong Liu, Lin Tian, Yubo Zhang, Stephen R. Aylward , Yueh Z. Lee, Marc Niethammer: **Discovering Hidden Physics Behind Transport Dynamics.** 10082-10092
- Deqing Sun, Daniel Vlasic, Charles Herrmann, Varun Jampani, Michael Krainin, Huiwen Chang, Ramin Zabih, William T. Freeman, Ce Liu: **AutoFlow: Learning a Better Training Set for Optical Flow.** 10093-10102
- Sk Miraj Ahmed, Dripta S. Raychaudhuri, Sujoy Paul, Samet Oymak, Amit K. Roy-Chowdhury: **Unsupervised Multi-Source Domain Adaptation Without Access to Source Data.** 10103-10112
- Zhaowei Zhu, Tongliang Liu , Yang Liu: **A Second-Order Approach to Learning With Instance-Dependent Label Noise.** 10113-10123
- Christian Tomani, Sebastian Gruber, Muhammed Ebrar Erdem, Daniel Cremers , Florian Buettner: **Post-Hoc Uncertainty Calibration for Domain Drift Scenarios.** 10124-10132
- Jiaxing Huang, Dayan Guan, Aoran Xiao , Shijian Lu: **Cross-View Regularization for Domain Adaptive Panoptic Segmentation.** 10133-10144
- Yuxuan Zhang, Huan Ling, Jun Gao, Kangxue Yin, Jean-Francois Lafleche, Adela Barriuso, Antonio Torralba, Sanja Fidler: **DatasetGAN: Efficient Labeled Data Factory With Minimal Human Effort.** 10145-10155
- Yuhan Shen , Lu Wang, Ehsan Elhamifar: **Learning To Segment Actions From Visual and Language Instructions via Differentiable Weak Sequence Alignment.** 10156-10165
- Jaehyup Lee, Soomin Seo, Munchurl Kim: **SIPSA-Net: Shift-Invariant Pan Sharpening With Moving Object Alignment for Satellite Imagery.** 10166-10174
- Lewei Yao, Renjie Pi, Hang Xu, Wei Zhang, Zhenguo Li, Tong Zhang: **Joint-DetNAS: Upgrade Your Detector With NAS, Pruning and Dynamic Distillation.** 10175-10184
- Hanzhe Hu, Shuai Bai, Aoxue Li, Jinshi Cui, Liwei Wang: **Dense Relation Distillation With Context-Aware Aggregation for Few-Shot Object Detection.** 10185-10194
- Tingting Liang, Yongtao Wang, Zhi Tang, Guosheng Hu, Haibin Ling: **OPANAS: One-Shot Path Aggregation Network Architecture Search for Object Detection.** 10195-10203
- Lukás Neumann , Andrea Vedaldi: **Pedestrian and Ego-Vehicle Trajectory Prediction From Monocular Camera.** 10204-10212
- Siyuan Qiao, Liang-Chieh Chen, Alan L. Yuille: **DetectoRS: Detecting Objects With Recursive Feature Pyramid and Switchable Atrous Convolution.** 10213-10224
- Xinggang Wang , Jiapei Feng, Bin Hu, Qi Ding, Longjin Ran, Xiaoxin Chen, Wenyu Liu: **Weakly-Supervised Instance Segmentation via Class-Agnostic Learning With Salient Images.** 10225-10235
- Yuda Qiu, Xiaojie Xu, Lingteng Qiu, Yan Pan, Yushuang Wu, Weikai Chen, Xiaoguang Han: **3DCaricShop: A Dataset and a Baseline Method for Single-View 3D Caricature Face Reconstruction.** 10236-10245
- Manyi Li, Hao Zhang : **D2IM-Net: Learning Detail Disentangled Implicit Fields From Single Images.** 10246-10255
- Wenbin Zhao, Jiabao Lei, Yuxin Wen , Jianguo Zhang , Kui Jia: **Sign-Agnostic Implicit Learning of Surface Self-Similarities for Shape Modeling and Reconstruction From Raw Point Clouds.** 10256-10265
- Cheng Wen, Baosheng Yu, Dacheng Tao: **Learning Progressive Point Embeddings for 3D Point Cloud Generation.** 10266-10275
- Xiaogang Wang, Xun Sun, Xinyu Cao, Kai Xu, Bin Zhou: **Learning Fine-Grained Segmentation of 3D Shapes Without Part Labels.** 10276-10285
- Yu Deng, Jiaolong Yang , Xin Tong : **Deformed Implicit Field: Modeling 3D Shapes With Learned Dense Correspondence.** 10286-10296
- Wanquan Feng, Juyong Zhang, Hongrui Cai, Haofei Xu, Junhui Hou , Hujun Bao: **Recurrent Multi-View Alignment Network for Unsupervised Surface Registration.** 10297-10307



- Jingwei Huang, Shan Huang, Mingwei Sun:  
**DeepLM: Large-Scale Nonlinear Least Squares on Deep Learning Frameworks Using Stochastic Domain Decomposition.** 10308-10317
- Albert Pumarola, Enric Corona, Gerard Pons-Moll, Francesc Moreno-Noguer:  
**D-NeRF: Neural Radiance Fields for Dynamic Scenes.** 10318-10327
- Xiao Song, Guorun Yang, Xinge Zhu, Hui Zhou, Zhe Wang, Jianping Shi:  
**AdaStereo: A Simple and Efficient Approach for Adaptive Stereo Matching.** 10328-10337
- Zachary Teed, Jia Deng:  
**Tangent Space Backpropagation for 3D Transformation Groups.** 10338-10347
- Giang Truong, Huu Le, David Suter , Erchuan Zhang , Syed Zulqarnain Gilani :  
**Unsupervised Learning for Robust Fitting: A Reinforcement Learning Approach.** 10348-10357
- Yu Chen, Ji Zhao , Laurent Kneip:  
**Hybrid Rotation Averaging: A Fast and Robust Rotation Averaging Approach.** 10358-10367
- Jihan Yang, Shaoshuai Shi, Zhe Wang, Hongsheng Li , Xiaojuan Qi:  
**ST3D: Self-Training for Unsupervised Domain Adaptation on 3D Object Detection.** 10368-10378
- Hansheng Chen, Yuyao Huang, Wei Tian, Zhong Gao, Lu Xiong:  
**MonoRUN: Monocular 3D Object Detection by Reconstruction and Uncertainty Propagation.** 10379-10388
- Ankit Singh, Omprakash Chakraborty, Ashutosh Varshney, Rameswar Panda, Rogério Feris, Kate Saenko , Abir Das:  
**Semi-Supervised Action Recognition With Temporal Contrastive Learning.** 10389-10399
- Simon Suo, Sebastian Regalado, Sergio Casas, Raquel Urtasun:  
**TrafficSim: Learning To Simulate Realistic Multi-Agent Behaviors.** 10400-10409
- Masato Tamura, Hiroki Ohashi, Tomoaki Yoshinaga:  
**QPIC: Query-Based Pairwise Human-Object Interaction Detection With Image-Wide Contextual Information.** 10410-10419
- Pin-Chun Chen, Bo-Han Kung, Jun-Cheng Chen :  
**Class-Aware Robust Adversarial Training for Object Detection.** 10420-10429
- Thibault Maho, Teddy Furion, Erwan Le Merrer:  
**SurFree: A Fast Surrogate-Free Black-Box Attack.** 10430-10439
- Changqian Yu, Bin Xiao, Changxin Gao, Lu Yuan, Lei Zhang, Nong Sang, Jingdong Wang:  
**Lite-HRNet: A Lightweight High-Resolution Network.** 10440-10450
- Yujin Chen, Zhigang Tu , Di Kang, Linchao Bao , Ying Zhang, Xuefei Zhe, Ruizhi Chen, Junsong Yuan:  
**Model-Based 3D Hand Reconstruction via Self-Supervised Learning.** 10451-10460
- Marko Mihajlovic, Yan Zhang, Michael J. Black, Siyu Tang :  
**LEAP: Learning Articulated Occupancy of People.** 10461-10471
- Shanyan Guan, Jingwei Xu, Yunbo Wang, Bingbing Ni, Xiaokang Yang:  
**Bilevel Online Adaptation for Out-of-Domain Human Mesh Reconstruction.** 10472-10481
- Huiyuan Yang, Lijun Yin, Yi Zhou, Jiuxiang Gu:  
**Exploiting Semantic Embedding and Visual Feature for Facial Action Unit Detection.** 10482-10491
- Zheng Zhu, Guan Huang, Jiankang Deng, Yun Ye, Junjie Huang, Xinze Chen, Jiagang Zhu, Tian Yang, Jiwen Lu , Dalong Du, Jie Zhou:  
**WebFace260M: A Benchmark Unveiling the Power of Million-Scale Deep Face Recognition.** 10492-10502
- Zongyong Deng, Hao Liu, Yaoxing Wang, Chenyang Wang , Zekuan Yu , Xuehong Sun:  
**PML: Progressive Margin Loss for Long-Tailed Age Classification.** 10503-10512
- Peixian Hong, Tao Wu, Ancong Wu, Xintong Han, Wei-Shi Zheng:  
**Fine-Grained Shape-Appearance Mutual Learning for Cloth-Changing Person Re-Identification.** 10513-10522
- Feilong Zhang, Xianming Liu, Cheng Guo , Shiyi Lin, Junjun Jiang, Xiangyang Ji:  
**Physics-Based Iterative Projection Complex Neural Network for Phase Retrieval in Lensless Microscopy Imaging.** 10523-10531
- Ze Cui, Jing Wang, Shangyin Gao, Tiansheng Guo, Yihui Feng, Bo Bai:  
**Asymmetric Gained Deep Image Compression With Continuous Rate Adaptation.** 10532-10541
- Liang Chen, Jiawei Zhang, Jinshan Pan, Songnan Lin , Faming Fang, Jimmy S. Ren:  
**Learning a Non-Blind Deblurring Network for Night Blurry Images.** 10542-10550
- Haiyan Wu, Yanyun Qu, Shaohui Lin, Jian Zhou, Ruizhi Qiao, Zhizhong Zhang, Yuan Xie, Lizhuang Ma:  
**Contrastive Learning for Compact Single Image Dehazing.** 10551-10560
- Risheng Liu, Long Ma, Jiaao Zhang, Xin Fan, Zhongxuan Luo:  
**Retinex-Inspired Unrolling With Cooperative Prior Architecture Search for Low-Light Image Enhancement.** 10561-10570
- Lan Fu, Changqing Zhou, Qing Guo, Felix Juefei-Xu, Hongkai Yu, Wei Feng, Yang Liu , Song Wang:  
**Auto-Exposure Fusion for Single-Image Shadow Removal.** 10571-10580
- Longguang Wang, Yingqian Wang , Xiaoyu Dong, Qingyu Xu, Jungang Yang, Wei An, Yulan Guo:  
**Unsupervised Degradation Representation Learning for Blind Super-Resolution.** 10581-10590

-     Junxuan Li, Hongdong Li, Yasuyuki Matsushita : **Lighting, Reflectance and Geometry Estimation From 360deg Panoramic Stereo.** 10591-10600
-    Jingyun Liang, Kai Zhang , Shuhang Gu, Luc Van Gool, Radu Timofte : **Flow-Based Kernel Prior With Application to Blind Super-Resolution.** 10601-10610
-    Soo Ye Kim, Hyeonjun Sim, Munchurl Kim: **KOALAnet: Blind Super-Resolution Using Kernel-Oriented Adaptive Local Adjustment.** 10611-10620
-    Yao-Chih Lee , Kuan-Wei Tseng , Yu-Ta Chen, Chien-Cheng Chen, Chu-Song Chen, Yi-Ping Hung: **3D Video Stabilization With Depth Estimation by CNN-Based Optimization.** 10621-10630
-    Xin Liu , Henglin Shi, Haoyu Chen , Zitong Yu, Xiaobai Li, Guoying Zhao: **iMiGUE: An Identity-Free Video Dataset for Micro-Gesture Understanding and Emotion Analysis.** 10631-10642
-    Chi Zhang, Baoxiong Jia, Mark Edmonds, Song-Chun Zhu, Yixin Zhu: **ACRE: Abstract Causal REasoning Beyond Covariation.** 10643-10653
-    Minghan Yang, Dong Xu, Hongyu Chen, Zaiwen Wen, Mengyun Chen: **Enhance Curvature Information by Structured Stochastic Quasi-Newton Methods.** 10654-10663
-    Mingi Ji, Seungjae Shin, Seunghyun Hwang, Gibeom Park, Il-Chul Moon: **Refine Myself by Teaching Myself: Feature Refinement via Self-Knowledge Distillation.** 10664-10673
-    Miao Yin, Yang Sui, Siyu Liao, Bo Yuan: **Towards Efficient Tensor Decomposition-Based DNN Model Compression With Optimization Framework.** 10674-10683
-    Vladimir Kryzhanovskiy, Gleb Balitskiy, Nikolay Kozyrskiy, Aleksandr Zuruev: **QPP: Real-Time Quantization Parameter Prediction for Deep Neural Networks.** 10684-10692
-    Andrew Elliott , Stephen Law , Chris Russell : **Explaining Classifiers Using Adversarial Perturbations on the Perceptual Ball.** 10693-10702
-    Wen Shen, Zhihua Wei, Shikun Huang, Binbin Zhang, Panyue Chen, Ping Zhao, Quanshi Zhang: **Verifiability and Predictability: Interpreting Utilities of Network Architectures for Point Cloud Processing.** 10703-10712
-    Qinbin Li, Bingsheng He, Dawn Song: **Model-Contrastive Federated Learning.** 10713-10722
-    Rahul Duggal, Hao Zhou, Shuo Yang, Yuanjun Xiong, Wei Xia, Zhuowen Tu, Stefano Soatto: **Compatibility-Aware Heterogeneous Visual Search.** 10723-10732
-    Madhawa Vidanapathirana, Qirui Wu, Yasutaka Furukawa, Angel X. Chang, Manolis Savva: **Plan2Scene: Converting Floorplans to 3D Scenes.** 10733-10742
-    Utkarsh Ojha, Yijun Li, Jingwan Lu, Alexei A. Efros , Yong Jae Lee, Eli Shechtman, Richard Zhang: **Few-Shot Image Generation via Cross-Domain Correspondence.** 10743-10752
-    Ivan Skorokhodov , Savva Ignatyev, Mohamed Elhoseiny : **Adversarial Generation of Continuous Images.** 10753-10764
-    Hongyu Liu, Ziyu Wan, Wei Huang, Yibing Song, Xintong Han, Jing Liao , Bin Jiang, Wei Liu: **DeFLOCNet: Deep Image Editing via Flexible Low-Level Controls.** 10765-10774
-    Jialun Peng, Dong Liu, Songcen Xu, Houqiang Li: **Generating Diverse Structure for Image Inpainting With Hierarchical VQ-VAE.** 10775-10784
-    Yahui Liu, Enver Sangineto , Yajing Chen, Linchao Bao , Haoxian Zhang, Nicu Sebe , Bruno Lepri, Wei Wang, Marco De Nadai: **Smoothing the Disentangled Latent Style Space for Unsupervised Image-to-Image Translation.** 10785-10794
-    Jian Ren, Menglei Chai, Oliver J. Woodford, Kyle Olszewski, Sergey Tulyakov: **Flow Guided Transformable Bottleneck Networks for Motion Retargeting.** 10795-10805
-    Zhengyao Lv, Xiaoming Li, Xin Li, Fu Li, Tianwei Lin, Dongliang He, Wangmeng Zuo: **Learning Semantic Person Image Generation by Region-Adaptive Normalization.** 10806-10815
-    Shao-Ping Lu, Rong Wang, Tao Zhong , Paul L. Rosin : **Large-Capacity Image Steganography Based on Invertible Neural Networks.** 10816-10825
-    Sangeek Hyun, Jihwan Kim, Jae-Pil Heo: **Self-Supervised Video GANs: Learning for Appearance Consistency and Motion Coherency.** 10826-10835
-    Mamshad Nayeem Rizve, Salman H. Khan, Fahad Shahbaz Khan, Mubarak Shah : **Exploring Complementary Strengths of Invariant and Equivariant Representations for Few-Shot Learning.** 10836-10846
-    Xuan-Bac Nguyen, Duc Toan Bui, Chi Nhan Duong, Tien D. Bui, Khoa Luu: **Clusformer: A Transformer Based Clustering Approach to Unsupervised Large-Scale Face and Visual Landmark Recognition.** 10847-10856
-    Chen Wei, Kihyuk Sohn, Clayton Mellina, Alan L. Yuille, Fan Yang: **CReST: A Class-Rebalancing Self-Training Framework for Imbalanced Semi-Supervised Learning.** 10857-10866



- Zhun Zhong, Enrico Fini, Subhankar Roy , Zhiming Luo, Elisa Ricci , Nicu Sebe :  
**Neighborhood Contrastive Learning for Novel Class Discovery.** 10867-10875
- Xianyu Chen , Ming Jiang, Qi Zhao:  
**Predicting Human Scanpaths in Visual Question Answering.** 10876-10885
- Xiaohan Ding, Xiangyu Zhang, Jungong Han, Guiguang Ding:  
**Diverse Branch Block: Building a Convolution as an Inception-Like Unit.** 10886-10895
- Zhaohui Yang, Yunhe Wang, Xinghao Chen , Jianyuan Guo , Wei Zhang, Chao Xu, Chunjing Xu, Dacheng Tao, Chang Xu :  
**HourNAS: Extremely Fast Neural Architecture Search Through an Hourglass Lens.** 10896-10906
- Xuanyang Zhang, Pengfei Hou, Xiangyu Zhang, Jian Sun:  
**Neural Architecture Search With Random Labels.** 10907-10916
- Mandy Lu, Qingyu Zhao, Jiequan Zhang, Kilian M. Pohl , Li Fei-Fei, Juan Carlos Niebles, Ehsan Adeli :  
**Metadata Normalization.** 10917-10927
- Ebrahim Al Safadi, Xubo Song:  
**Learning-Based Image Registration With Meta-Regularization.** 10928-10937
- Rui Sun , Yihao Li, Tianzhu Zhang, Zhendong Mao, Feng Wu, Yongdong Zhang:  
**Lesion-Aware Transformers for Diabetic Retinopathy Grading.** 10938-10947
- Ding Ma, Xiangqian Wu:  
**CapsuleRRT: Relationships-Aware Regression Tracking via Capsules.** 10948-10957
- Daniel Stadler, Jürgen Beyerer:  
**Improving Multiple Pedestrian Tracking by Track Management and Occlusion Handling.** 10958-10967
- Xiu Su, Tao Huang, Yanxi Li , Shan You, Fei Wang, Chen Qian, Changshui Zhang, Chang Xu :  
**Prioritized Architecture Sampling With Monte-Carlo Tree Search.** 10968-10977
- Shengdong Zhang, Ehsan Nezhadarya, Homa Fashandi, Jiayi Liu, Darin Graham, Mohak Shah:  
**Stochastic Whitening Batch Normalization.** 10978-10987
- Lile Cai, Xun Xu, Jun Hao Liew, Chuan Sheng Foo:  
**Revisiting Superpixels for Active Learning in Semantic Segmentation With Realistic Annotation Costs.** 10988-10997
- Yunsheng Li, Lu Yuan, Yinpeng Chen, Pei Wang, Nuno Vasconcelos :  
**Dynamic Transfer for Multi-Source Domain Adaptation.** 10998-11007
- Jianzhong He, Xu Jia, Shuaijun Chen, Jianzhuang Liu:  
**Multi-Source Domain Adaptation With Collaborative Learning for Semantic Segmentation.** 11008-11017
- Shuaijun Chen, Xu Jia, Jianzhong He, Yongjie Shi, Jianzhuang Liu:  
**Semi-Supervised Domain Adaptation Based on Dual-Level Domain Mixing for Semantic Segmentation.** 11018-11027
- Hubert Lin, Mitchell van Zuijlen , Sylvia C. Pont , Maarten W. A. Wijntjes , Kavita Bala :  
**What Can Style Transfer and Paintings Do for Model Robustness?** 11028-11037
- Mohamed A. Abdelsalam, Mojtaba Faramarzi , Shagun Sodhani, Sarath Chandar:  
**IIRC: Incremental Implicitly-Refined Classification.** 11038-11047
- Akshay Gadi Patil, Manyi Li, Matthew Fisher, Manolis Savva, Hao Zhang:  
**LayoutGMN: Neural Graph Matching for Structural Layout Similarity.** 11048-11057
- Ramprasaath R. Selvaraju, Karan Desai, Justin Johnson, Nikhil Naik:  
**CASTing Your Model: Learning To Localize Improves Self-Supervised Representations.** 11058-11067
- Isma Hadji, Konstantinos G. Derpanis, Allan D. Jepson:  
**Representation Learning via Global Temporal Alignment and Cycle-Consistency.** 11068-11077
- Vitor Guizilini, Rares Ambrus, Wolfram Burgard, Adrien Gaidon:  
**Sparse Auxiliary Networks for Unified Monocular Depth Prediction and Completion.** 11078-11088
- Michaël Ramamonjisoa, Michael Firman, Jamie Watson, Vincent Lepetit, Daniyar Turmukhambetov:  
**Single Image Depth Prediction With Wavelet Decomposition.** 11089-11098
- Khoi Nguyen, Sinisa Todorovic:  
**FAPIS: A Few-Shot Anchor-Free Part-Based Instance Segmenter.** 11099-11108
- Rongjie Li, Songyang Zhang, Bo Wan, Xuming He:  
**Bipartite Graph Network With Adaptive Message Passing for Unbiased Scene Graph Generation.** 11109-11119
- Yanan Sun, Chi-Keung Tang, Yu-Wing Tai :  
**Semantic Image Matting.** 11120-11129
- Lukas Hoyer, Dengxin Dai, Yuhua Chen, Adrian Köring, Suman Saha, Luc Van Gool:  
**Three Ways To Improve Semantic Segmentation With Self-Supervised Depth Estimation.** 11130-11140
- Xiaoding Yuan, Adam Kortylewski, Yihong Sun, Alan L. Yuille:  
**Robust Instance Segmentation Through Reasoning About Multi-Object Occlusion.** 11141-11150



- Pallabi Ghosh, Nirat Saini, Larry S. Davis, Abhinav Shrivastava:  
**Learning Graphs for Knowledge Transfer With Limited Labels.** 11151-11161
- Karan Desai, Justin Johnson:  
**VirTex: Learning Visual Representations From Textual Annotations.** 11162-11173
- Yijie Lin , Yuanbiao Gou, Zitao Liu, Boyun Li, Jiancheng Lv, Xi Peng:  
**COMPLETER: Incomplete Multi-View Clustering via Contrastive Prediction.** 11174-11183
- Nishant Rai , Haofeng Chen, Jingwei Ji, Rishi Desai, Kazuki Kozuka, Shun Ishizaka, Ehsan Adeli , Juan Carlos Niebles:  
**Home Action Genome: Cooperative Compositional Action Understanding.** 11184-11193
- Dave Epstein, Carl Vondrick:  
**Learning Goals From Failure.** 11194-11204
- Tian Pan, Yibing Song, Tianyu Yang, Wenhao Jiang, Wei Liu:  
**VideoMoCo: Contrastive Video Representation Learning With Temporally Adversarial Examples.** 11205-11214
- Minghan Li , Shuai Li, Lida Li, Lei Zhang:  
**Spatial Feature Calibration and Temporal Fusion for Effective One-Stage Video Instance Segmentation.** 11215-11224
- M. Saquib Sarfraz, Naila Murray, Vivek Sharma, Ali Diba, Luc Van Gool, Rainer Stiefelhagen:  
**Temporally-Weighted Hierarchical Clustering for Unsupervised Action Segmentation.** 11225-11234
- Daizong Liu, Xiaoye Qu, Jianfeng Dong, Pan Zhou, Yu Cheng, Wei Wei, Zichuan Xu, Yulai Xie:  
**Context-Aware Biaffine Localizing Network for Temporal Sentence Grounding.** 11235-11244
- Yuqing Song, Shizhe Chen, Qin Jin:  
**Towards Diverse Paragraph Captioning for Untrimmed Videos.** 11245-11254
- Yiyue Luo, Yunzhu Li, Michael Foshey, Wan Shou , Pratyusha Sharma, Tomás Palacios, Antonio Torralba, Wojciech Matusik:  
**Intelligent Carpet: Inferring 3D Human Pose From Tactile Signals.** 11255-11265
- Sibei Yang, Meng Xia, Guanbin Li, Hong-Yu Zhou , Yizhou Yu:  
**Bottom-Up Shift and Reasoning for Referring Image Segmentation.** 11266-11275
- Kevin Chen, Junshen K. Chen, Jo Chuang, Marynel Vázquez, Silvio Savarese:  
**Topological Planning With Transformers for Vision-and-Language Navigation.** 11276-11286
- Madeleine Grunde-McLaughlin, Ranjay Krishna, Maneesh Agrawala :  
**AGQA: A Benchmark for Compositional Spatio-Temporal Reasoning.** 11287-11297
- Gowri Somanath, Daniel Kurz:  
**HDR Environment Map Estimation for Real-Time Augmented Reality.** 11298-11306
- Hui Wu, Yupeng Gao, Xiaoxiao Guo, Ziad Al-Halah , Steven Rennie, Kristen Grauman, Rogério Feris:  
**Fashion IQ: A New Dataset Towards Retrieving Images by Natural Language Feedback.** 11307-11317
- Maosheng Ye, Tongyi Cao, Qifeng Chen:  
**TPCN: Temporal Point Cloud Networks for Motion Forecasting.** 11318-11327
- Irtiza Hasan, Shengcai Liao, Jinpeng Li, Saad Ullah Akram, Ling Shao:  
**Generalizable Pedestrian Detection: The Elephant in the Room.** 11328-11337
- Cheng Sun, Chi-Wei Hsiao, Ning-Hsu Wang , Min Sun, Hwann-Tzong Chen:  
**Indoor Panorama Planar 3D Reconstruction via Divide and Conquer.** 11338-11347
- Yan Xia, Yusheng Xu, Shuang Li, Rui Wang, Juan Du, Daniel Cremers , Uwe Stilla:  
**SOE-Net: A Self-Attention and Orientation Encoding Network for Point Cloud Based Place Recognition.** 11348-11357
- Towaki Takikawa, Joey Litalien , Kangxue Yin, Karsten Kreis, Charles T. Loop, Derek Nowrouzezahrai, Alec Jacobson, Morgan McGuire, Sanja Fidler:  
**Neural Geometric Level of Detail: Real-Time Rendering With Implicit 3D Shapes.** 11358-11367
- Rémi Pautrat, Juan-Ting Lin, Viktor Larsson, Martin R. Oswald, Marc Pollefeys :  
**SOLD2: Self-Supervised Occlusion-Aware Line Description and Detection.** 11368-11378
- Bo Pang, Gao Peng, Yizhuo Li, Cewu Lu:  
**PGT: A Progressive Method for Training Models on Long Videos.** 11379-11389
- Yi Fang, Jiapeng Tang, Wang Shen, Wei Shen, Xiao Gu, Li Song, Guangtao Zhai :  
**Dual Attention Guided Gaze Target Detection in the Wild.** 11390-11399
- Yannan He, Anqi Pang, Xin Chen , Han Liang, Minye Wu, Yuexin Ma, Lan Xu :  
**ChallenCap: Monocular 3D Capture of Challenging Human Performances Using Multi-Modal References.** 11400-11411
- Jongho Lee, Mohit Gupta:  
**Blocks-World Cameras.** 11412-11422
- Andreas Meuleman , Hyeyonjoong Jang, Daniel S. Jeon, Min H. Kim:  
**Real-Time Sphere Sweeping Stereo From Multiview Fisheye Images.** 11423-11432
- Jianwei Feng, Dong Huang:  
**Optimal Gradient Checkpoint Search for Arbitrary Computation Graphs.** 11433-11442



- Vitali Petsiuk, Rajiv Jain, Varun Manjunatha, Vlad I. Morariu, Ashutosh Mehra, Vicente Ordonez, Kate Saenko [\(D\)](#): **Black-Box Explanation of Object Detectors via Saliency Maps.** 11443-11452
- Michael Niemeyer, Andreas Geiger: **GIRAFFE: Representing Scenes As Compositional Generative Neural Feature Fields.** 11453-11464
- Xingran Zhou, Bo Zhang [\(D\)](#), Ting Zhang, Pan Zhang, Jianmin Bao, Dong Chen, Zhongfei Zhang, Fang Wen: **CoCosNet v2: Full-Resolution Correspondence Learning for Image Translation.** 11465-11475
- Dongliang Chang, Kaiyue Pang, Yixiao Zheng, Zhanyu Ma, Yi-Zhe Song [\(D\)](#), Jun Guo: **Your "Flamingo" is My "Bird": Fine-Grained, or Not.** 11476-11485
- Jie Liu [\(D\)](#), Chuming Li, Feng Liang, Chen Lin, Ming Sun, Junjie Yan, Wanli Ouyang, Dong Xu: **Inception Convolution With Efficient Dilation Search.** 11486-11495
- Chao Huang [\(D\)](#), Anuj Srivastava [\(D\)](#), Rongjie Liu: **Geo-FARM: Geodesic Factor Regression Model for Misaligned Pre-Shape Responses in Statistical Shape Analysis.** 11496-11505
- Tianyu Zhang, Lingxi Xie, Longhui Wei, Zijie Zhuang, Yongfei Zhang [\(D\)](#), Bo Li, Qi Tian: **UnrealPerson: An Adaptive Pipeline Towards Costless Person Re-Identification.** 11506-11515
- Shuang Li, Mixue Xie [\(D\)](#), Kaixiong Gong [\(D\)](#), Chi Harold Liu, Yulin Wang [\(D\)](#), Wei Li: **Transferable Semantic Augmentation for Domain Adaptation.** 11516-11525
- Pengguang Chen, Shu Liu, Jiaya Jia: **Jigsaw Clustering for Unsupervised Visual Representation Learning.** 11526-11535
- Giovanni Pintore [\(D\)](#), Marco Agus, Eva Almansa [\(D\)](#), Jens Schneider, Enrico Gobbetti: **SliceNet: Deep Dense Depth Estimation From a Single Indoor Panorama Using a Slice-Based Representation.** 11536-11545
- Hengyue Liu, Ning Yan, Masood S. Mortazavi, Bir Bhanu: **Fully Convolutional Scene Graph Generation.** 11546-11556
- Hieu Pham, Zihang Dai, Qizhe Xie, Quoc V. Le: **Meta Pseudo Labels.** 11557-11568
- Panos Achlioptas, Maks Ovsjanikov, Kilichbek Haydarov [\(D\)](#), Mohamed Elhoseiny [\(D\)](#), Leonidas J. Guibas: **ArtEmis: Affective Language for Visual Art.** 11569-11579
- Sungha Choi, Sanghun Jung, Huiwon Yun, Joanne Taery Kim, Seungryong Kim, Jaegul Choo: **RobustNet: Improving Domain Generalization in Urban-Scene Segmentation via Instance Selective Whitening.** 11580-11590
- Yunqiu Lv [\(D\)](#), Jing Zhang, Yuchao Dai, Aixuan Li, Bowen Liu, Nick Barnes, Deng-Ping Fan [\(D\)](#): **Simultaneously Localize, Segment and Rank the Camouflaged Objects.** 11591-11601
- Jisoo Jeong, Vikas Verma, Minsung Hyun, Juho Kannala, Nojun Kwak: **Interpolation-Based Semi-Supervised Learning for Object Detection.** 11602-11611
- Francisco Rivera Valverde, Juana Valeria Hurtado, Abhinav Valada [\(D\)](#): **There Is More Than Meets the Eye: Self-Supervised Multi-Object Detection and Tracking With Sound by Distilling Multimodal Knowledge.** 11612-11621
- Yuang Zhang, Huanyu He, Jianguo Li, Yuxi Li, John See [\(D\)](#), Weiyao Lin [\(D\)](#): **Variational Pedestrian Detection.** 11622-11631
- Xiang Li, Wenhui Wang, Xiaolin Hu, Jun Li, Jinhui Tang, Jian Yang: **Generalized Focal Loss V2: Learning Reliable Localization Quality Estimation for Dense Object Detection.** 11632-11641
- Xingjia Pan, Yingguo Gao, Zhiwen Lin, Fan Tang, Weiming Dong, Haolei Yuan, Feiyue Huang, Changsheng Xu: **Unveiling the Potential of Structure Preserving for Weakly Supervised Object Localization.** 11642-11651
- Udaranga Wickramasinghe, Pascal Fua, Graham Knott: **Deep Active Surface Models.** 11652-11661
- Huiwen Luo, Koki Nagano, Han-Wei Kung, Qingguo Xu, Zejian Wang, Lingyu Wei, Liwen Hu, Hao Li [\(D\)](#): **Normalized Avatar Synthesis Using StyleGAN and Perceptual Refinement.** 11662-11672
- Jingyu Gong, Jiachen Xu, Xin Tan [\(D\)](#), Haichuan Song, Yanyun Qu, Yuan Xie, Lizhuang Ma: **Omni-Supervised Point Cloud Segmentation via Gradual Receptive Field Component Reasoning.** 11673-11682
- Guocheng Qian [\(D\)](#), Abdullellah Abualshour, Guohao Li [\(D\)](#), Ali K. Thabet, Bernard Ghanem [\(D\)](#): **PU-GCN: Point Cloud Upsampling Using Graph Convolutional Networks.** 11683-11692
- Tao Lu, Limin Wang, Gangshan Wu: **CGA-Net: Category Guided Aggregation for Point Cloud Semantic Segmentation.** 11693-11702
- Pradeep Kumar Jayaraman, Aditya Sanghi, Joseph G. Lambourne, Karl D. D. Willis, Thomas Davies, Hooman Shayani, Nigel J. W. Morris: **UV-Net: Learning From Boundary Representations.** 11703-11712
- Mikaela Angelina Uy, Vladimir G. Kim, Minhyuk Sung [\(D\)](#), Noam Aigerman, Siddhartha Chaudhuri, Leonidas J. Guibas: **Joint Learning of 3D Shape Retrieval and Deformation.** 11713-11722



- Nikolaus Demmel, Christiane Sommer , Daniel Cremers , Vladyslav Usenko:  
**Square Root Bundle Adjustment for Large-Scale Reconstruction.** 11723-11732
- Amit Raj, Michael Zollhöfer, Tomas Simon, Jason M. Saragih, Shunsuke Saito, James Hays, Stephen Lombardi:  
**Pixel-Aligned Volumetric Avatars.** 11733-11742
- Haoang Li, Kai Chen , Ji Zhao , Jiangliu Wang, Pyojin Kim, Zhe Liu, Yun-Hui Liu:  
**Learning To Identify Correct 2D-2D Line Correspondences on Sphere.** 11743-11752
- Sheng Ao , Qingyong Hu, Bo Yang, Andrew Markham, Yulan Guo:  
**SpinNet: Learning a General Surface Descriptor for 3D Point Cloud Registration.** 11753-11762
- Igor Santesteban , Nils Thuerey, Miguel A. Otaduy , Dan Casas :  
**Self-Supervised Collision Handling via Generative 3D Garment Models for Virtual Try-On.** 11763-11773
- Luwei Yang, Heng Li, Jamal Ahmed Rahim, Zhaopeng Cui, Ping Tan:  
**End-to-End Rotation Averaging With Multi-Source Propagation.** 11774-11783
- Tianwei Yin, Xingyi Zhou, Philipp Krähenbühl:  
**Center-Based 3D Object Detection and Tracking.** 11784-11793
- Chunwei Wang, Chao Ma, Ming Zhu, Xiaokang Yang:  
**PointAugmenting: Cross-Modal Augmentation for 3D Object Detection.** 11794-11803
- Jinpeng Wang, Yuting Gao, Ke Li, Yiqi Lin, Andy J. Ma, Hao Cheng, Pai Peng, Feiyue Huang, Rongrong Ji, Xing Sun:  
**Removing the Background by Adding the Background: Towards Background Robust Self-Supervised Video Representation Learning.** 11804-11813
- Bo Pang, Tianyang Zhao , Xu Xie, Ying Nian Wu:  
**Trajectory Prediction With Latent Belief Energy-Based Model.** 11814-11824
- Cheng Zou, Bohan Wang, Yue Hu, Junqi Liu, Qian Wu, Yu Zhao, Boxun Li, Chenguang Zhang, Chi Zhang, Yichen Wei, Jian Sun:  
**End-to-End Human Object Interaction Detection With HOI Transformer.** 11825-11834
- Chen Ma, Li Chen, Jun-Hai Yong:  
**Simulating Unknown Target Models for Query-Efficient Black-Box Attacks.** 11835-11844
- Zihao Xiao, Xianfeng Gao, Chilin Fu, Yinpeng Dong, Wei Gao, Xiaolu Zhang, Jun Zhou, Jun Zhu:  
**Improving Transferability of Adversarial Patches on Face Recognition With Generative Models.** 11845-11854
- Jiahang Wang, Sheng Jin , Wentao Liu, Weizhong Liu, Chen Qian, Ping Luo:  
**When Human Pose Estimation Meets Robustness: Adversarial Algorithms and Benchmarks.** 11855-11864
- Evonne Ng, Shiry Ginosar, Trevor Darrell, Hanbyul Joo:  
**Body2Hands: Learning To Infer 3D Hands From Conversational Gesture Body Dynamics.** 11865-11874
- Enric Corona, Albert Pumarola, Guillem Alenyà, Gerard Pons-Moll, Francesc Moreno-Noguer:  
**SMPLicit: Topology-Aware Generative Model for Clothed People.** 11875-11885
- Jiahao Lin, Gim Hee Lee:  
**Multi-View Multi-Person 3D Pose Estimation With Plane Sweep Stereo.** 11886-11895
- Chaofeng Chen, Xiaoming Li, Lingbo Yang, Xianhui Lin, Lei Zhang, Kwan-Yee K. Wong :  
**Progressive Semantic-Aware Style Transformation for Blind Face Restoration.** 11896-11905
- Jiankang Deng, Jia Guo, Jing Yang, Alexandros Lattas, Stefanos Zafeiriou:  
**Variational Prototype Learning for Deep Face Recognition.** 11906-11915
- Ying Shu, Yan Yan, Si Chen, Jing-Hao Xue, Chunhua Shen, Hanzi Wang:  
**Learning Spatial-Semantic Relationship for Facial Attribute Recognition With Limited Labeled Data.** 11916-11925
- Shiyu Xuan , Shiliang Zhang:  
**Intra-Inter Camera Similarity for Unsupervised Person Re-Identification.** 11926-11935
- Omer Dahary, Matan Jacoby, Alex M. Bronstein:  
**Digital Gimbal: End-to-End Deep Image Stabilization With Learnable Exposure Times.** 11936-11945
- Yuanchao Bai, Xianming Liu, Wangmeng Zuo, Yaowei Wang, Xiangyang Ji:  
**Learning Scalable IY=Constrained Near-Lossless Image Compression via Joint Lossy Image and Residual Compression.** 11946-11955
- Phong Tran, Anh Tuan Tran, Quynh Phung, Minh Hoai:  
**Explore Image Deblurring via Encoded Blur Kernel Space.** 11956-11965
- Wending Yan, Robby T. Tan, Wenhan Yang, Dengxin Dai:  
**Self-Aligned Video Deraining With Transmission-Depth Consistency.** 11966-11976
- Aashish Sharma, Robby T. Tan:  
**Nighttime Visibility Enhancement by Increasing the Dynamic Range and Suppression of Light Effects.** 11977-11986
- Hakyeong Kim, Andreas Meuleman , Daniel S. Jeon, Min H. Kim:  
**High-Quality Stereo Image Restoration From Double Refraction.** 11987-11995
- Jing Zhao, Ruiqin Xiong, Hangfan Liu , Jian Zhang, Tiejun Huang:  
**Spk2ImgNet: Learning To Reconstruct Dynamic Scene From Continuous Spike Stream.** 11996-12005



- Shipeng Zhang, Lizhi Wang, Lei Zhang, Hua Huang :  
**Learning Tensor Low-Rank Prior for Hyperspectral Image Reconstruction.** 12006-12015
- Xiangtao Kong , Hengyuan Zhao, Yu Qiao , Chao Dong:  
**ClassSR: A General Framework to Accelerate Super-Resolution Networks by Data Characteristic.** 12016-12025
- Jingye Chen, Bin Li, Xiangyang Xue:  
**Scene Text Telescope: Text-Focused Scene Image Super-Resolution.** 12026-12035
- Jiyang Yu, Ravi Ramamoorthi, Ke-Li Cheng, Michel Sarkis, Ning Bi:  
**Real-Time Selfie Video Stabilization.** 12036-12044
- Xingqian Xu, Zhifei Zhang, Zhaowen Wang, Brian L. Price, Zhonghao Wang, Humphrey Shi :  
**Rethinking Text Segmentation: A Novel Dataset and a Text-Specific Refinement Approach.** 12045-12055
- Yonggang Qi, Kai Zhang, Aneeshan Sain , Yi-Zhe Song :  
**PQA: Perceptual Question Answering.** 12056-12064
- Liuyihan Song, Kang Zhao, Pan Pan, Yu Liu, Yingya Zhang, Yinghui Xu, Rong Jin:  
**Communication Efficient SGD via Gradient Sampling With Bayes Prior.** 12065-12074
- Guanzhe Hong, Zhiyuan Mao, Xiaojun Lin , Stanley H. Chan:  
**Student-Teacher Learning From Clean Inputs to Noisy Inputs.** 12075-12084
- Miao Yin, Siyu Liao, Xiao-Yang Liu, Xiaodong Wang, Bo Yuan :  
**Towards Extremely Compact RNNs for Video Recognition With Fully Decomposed Hierarchical Tucker Structure.** 12085-12094
- Yerlan Idelbayev , Pavlo Molchanov, Maying Shen, Hongxu Yin, Miguel Á. Carreira-Perpiñán, José M. Álvarez:  
**Optimal Quantization Using Scaled Codebook.** 12095-12104
- Jing Li, Botong Wu, Xinwei Sun , Yizhou Wang:  
**Causal Hidden Markov Model for Time Series Disease Forecasting.** 12105-12114
- Sangwon Jung, Donggyu Lee, Taeon Park, Taesup Moon:  
**Fair Feature Distillation for Visual Recognition.** 12115-12124
- Abhishek Singh, Ayush Chopra, Ethan Garza, Emily Zhang, Praneeth Vepakomma , Vivek Sharma, Ramesh Raskar:  
**DISCO: Dynamic and Invariant Sensitive Channel Obfuscation for Deep Neural Networks.** 12125-12135
- Zhong Zhang, Haijia Zhang, Shuang Liu:  
**Person Re-Identification Using Heterogeneous Local Graph Attention Networks.** 12136-12145
- Navaneeth Bodla, Gaurav Shrivastava, Rama Chellappa, Abhinav Shrivastava:  
**Hierarchical Video Prediction Using Relational Layouts for Human-Object Interactions.** 12146-12155
- Yuchen Liu, Zhixin Shu, Yijun Li, Zhe Lin, Federico Perazzi, Sun-Yuan Kung:  
**Content-Aware GAN Compression.** 12156-12166
- Mohamad Shahbazi, Zhiwu Huang, Danda Pani Paudel , Ajad Chhatkuli, Luc Van Gool:  
**Efficient Conditional GAN Transfer With Knowledge Propagation Across Classes.** 12167-12176
- Huiting Yang, Liangyu Chai, Qiang Wen, Shuang Zhao, Zixun Sun, Shengfeng He :  
**Discovering Interpretable Latent Space Directions of GANs Beyond Binary Attributes.** 12177-12185
- Qi Jia, Zhengjun Li, Xin Fan, Haotian Zhao, Shiyu Teng, Xincheng Ye, Longin Jan Latecki :  
**Leveraging Line-Point Consistency To Preserve Structures for Wide Parallax Image Stitching.** 12186-12195
- Dmytro Kotovenko, Matthias Wright, Arthur Heimbrecht, Björn Ommer:  
**Rethinking Style Transfer: From Pixels to Parameterized Brushstrokes.** 12196-12205
- Jingbo Wang, Sijie Yan, Bo Dai, Dahua Lin:  
**Scene-Aware Generative Network for Human Motion Synthesis.** 12206-12215
- Gernot Riegler, Vladlen Koltun:  
**Stable View Synthesis.** 12216-12225
- Dan Amir, Yair Weiss:  
**Understanding and Simplifying Perceptual Distances.** 12226-12235
- Andreas Blattmann, Timo Milbich, Michael Dorkenwald, Björn Ommer:  
**Behavior-Driven Synthesis of Human Dynamics.** 12236-12246
- Ding-Jie Chen, He-Yen Hsieh, Tyng-Luh Liu:  
**Adaptive Image Transformer for One-Shot Object Detection.** 12247-12256
- Insoo Kim, Seungju Han , Ji-Won Baek, Seong-Jin Park, Jae-Joon Han, Jinwoo Shin:  
**Quality-Agnostic Image Recognition via Invertible Decoder.** 12257-12266
- Fariborz Taherkhani, Ali Dabouei, Sobhan Soleymani, Jeremy M. Dawson, Nasser M. Nasrabadi:  
**Self-Supervised Wasserstein Pseudo-Labeling for Semi-Supervised Image Classification.** 12267-12277
- Sungwon Park, Sungwon Han, Sundong Kim , Danu Kim, Sungkyu Park, Seunghoon Hong, Meeyoung Cha :  
**Improving Unsupervised Image Clustering With Robust Learning.** 12278-12287
- Qi Fan, Deng-Ping Fan , Huazhu Fu , Chi-Keung Tang, Ling Shao, Yu-Wing Tai :  
**Group Collaborative Learning for Co-Salient Object Detection.** 12288-12298



- Hanting Chen, Yunhe Wang, Tianyu Guo, Chang Xu , Yiping Deng, Zhenhua Liu, Siwei Ma, Chunjing Xu, Chao Xu, Wen Gao:  
**Pre-Trained Image Processing Transformer.** 12299-12310
- Yuchao Gu, Lijuan Wang, Yun Liu, Yi Yang, Yu-Huan Wu, Shao-Ping Lu, Ming-Ming Cheng :  
**DOTS: Decoupling Operation and Topology in Differentiable Architecture Search.** 12311-12320
- Duo Li, Jie Hu, Changhu Wang, Xiangtai Li, Qi She, Lei Zhu, Tong Zhang, Qifeng Chen:  
**Involution: Inverting the Inherence of Convolution for Visual Recognition.** 12321-12330
- Zhuliang Yao, Yue Cao, Shuxin Zheng, Gao Huang, Stephen Lin:  
**Cross-Iteration Batch Normalization.** 12331-12340
- Wei Ji , Shuang Yu, Junde Wu , Kai Ma, Cheng Bian , Qi Bi, Jingjing Li, Hanruo Liu, Li Cheng, Yefeng Zheng:  
**Learning Calibrated Medical Image Segmentation via Multi-Rater Agreement Modeling.** 12341-12351
- Jialian Wu, Jiale Cao, Liangchen Song, Yu Wang, Ming Yang, Junsong Yuan :  
**Track To Detect and Segment: An Online Multi-Object Tracker.** 12352-12361
- Deepak K. Gupta, Devanshu Arya, Efstratios Gavves:  
**Rotation Equivariant Siamese Networks for Tracking.** 12362-12371
- Bing Shuai, Andrew G. Berneshawi, Xinyu Li, Davide Modolo, Joseph Tighe:  
**SiamMOT: Siamese Multi-Object Tracking.** 12372-12382
- Boyi Li, Felix Wu, Ser-Nam Lim, Serge J. Belongie , Kilian Q. Weinberger:  
**On Feature Normalization and Data Augmentation.** 12383-12392
- Shangzhi Zhang, Chong You, René Vidal, Chun-Guang Li:  
**Learning a Self-Expressive Network for Subspace Clustering.** 12393-12403
- Hao Lu , Hu Han , S. Kevin Zhou:  
**Dual-GAN: Joint BVP and Noise Modeling for Remote Physiological Measurement.** 12404-12413
- Pan Zhang, Bo Zhang, Ting Zhang, Dong Chen, Yong Wang, Fang Wen:  
**Prototypical Pseudo Label Denoising and Target Structure Learning for Domain Adaptive Semantic Segmentation.** 12414-12424
- Yixin Zhang, Zilei Wang, Yushi Mao:  
**RPN Prototype Alignment for Domain Adaptive Object Detector.** 12425-12434
- Luke Melas-Kyriazi, Arjun K. Manrai:  
**PixMatch: Unsupervised Domain Adaptation via Pixelwise Consistency Training.** 12435-12445
- Nanyang Ye, Jingxuan Tang, Huayu Deng, Xiao-Yun Zhou, Qianxiao Li, Zhenguo Li, Guang-Zhong Yang, Zhanxing Zhu:  
**Adversarial Invariant Learning.** 12446-12454
- Chi Zhang, Nan Song, Guosheng Lin, Yun Zheng, Pan Pan, Yinghui Xu:  
**Few-Shot Incremental Learning With Continually Evolved Classifiers.** 12455-12464
- Jiexi Yan, Lei Luo, Cheng Deng, Heng Huang:  
**Unsupervised Hyperbolic Metric Learning.** 12465-12474
- Pedro Morgado , Nuno Vasconcelos , Ishan Misra:  
**Audio-Visual Instance Discrimination with Cross-Modal Agreement.** 12475-12486
- Shamit Lal, Mihir Prabhudesai, Ishita Mediratta, Adam W. Harley, Katerina Fragkiadaki:  
**CoCoNets: Continuous Contrastive 3D Scene Representations.** 12487-12496
- Bin Xu, Yuhua Xu, Xiaoli Yang, Wei Jia, Yulan Guo:  
**Bilateral Grid Learning for Stereo Matching Networks.** 12497-12506
- Yunfei Long , Daniel Morris , Xiaoming Liu, Marcos Castro, Punarjay Chakravarty, Praveen Narayanan:  
**Radar-Camera Pixel Depth Association for Depth Completion.** 12507-12516
- Colin Graber, Grace Tsai, Michael Firman, Gabriel J. Brostow, Alexander G. Schwing:  
**Panoptic Segmentation Forecasting.** 12517-12526
- Gengcong Yang, Jingyi Zhang, Yong Zhang, Baoyuan Wu, Yujiu Yang :  
**Probabilistic Modeling of Semantic Ambiguity for Scene Graph Generation.** 12527-12536
- Lanyun Zhu , Deyi Ji, Shiping Zhu, Weihao Gan, Wei Wu, Junjie Yan:  
**Learning Statistical Texture for Semantic Segmentation.** 12537-12546
- Ran Cheng, Ryan Razani, Ehsan Taghavi , Enxu Li , Bingbing Liu:  
**(AF)2-S3Net: Attentive Feature Fusion With Adaptive Feature Selection for Sparse Semantic Segmentation Network.** 12547-12556
- Yaniv Benny, Niv Pekar, Lior Wolf:  
**Scale-Localized Abstract Reasoning.** 12557-12565
- Minki Jeong, Seokeon Choi, Changick Kim:  
**Few-Shot Open-Set Recognition by Transformation Consistency.** 12566-12575
- Chaoqi Chen, Zebiao Zheng, Yue Huang, Xinghao Ding, Yizhou Yu:  
**I3Net: Implicit Instance-Invariant Network for Adapting One-Stage Object Detectors.** 12576-12585



- Xudong Wang, Ziwei Liu, Stella X. Yu:  
**Unsupervised Feature Learning by Cross-Level Instance-Group Discrimination.** 12586-12595
- Xiaolong Liu , Yao Hu, Song Bai, Fei Ding, Xiang Bai, Philip H. S. Torr:  
**Multi-Shot Temporal Event Localization: A Benchmark.** 12596-12606
- Didac Suris, Ruoshi Liu, Carl Vondrick:  
**Learning the Predictability of the Future.** 12607-12617
- Xudong Guo, Xun Guo, Yan Lu:  
**SSAN: Separable Self-Attention Network for Video Representation Learning.** 12618-12627
- Jun Li, Sinisa Todorovic:  
**Action Shuffle Alternating Learning for Unsupervised Action Segmentation.** 12628-12636
- Guanghui Xu, Shuaicheng Niu, Mingkui Tan, Yucheng Luo, Qing Du, Qi Wu:  
**Towards Accurate Text-Based Image Captioning With Content Diversity Exploration.** 12637-12646
- Mingchen Zhuge, Dehong Gao, Deng-Ping Fan , Linbo Jin, Ben Chen, Haoming Zhou, Minghui Qiu, Ling Shao:  
**Kaleido-BERT: Vision-Language Pre-Training on Fashion Domain.** 12647-12657
- Youngjae Yu, Jiwan Chung, Heeseung Yun, Jongseok Kim, Gunhee Kim:  
**Transitional Adaptation of Pretrained Models for Visual Storytelling.** 12658-12668
- Mingxing Zhang, Yang Yang, Xinghan Chen, Yanli Ji, Xing Xu, Jingjing Li, Heng Tao Shen:  
**Multi-Stage Aggregated Transformer Network for Temporal Language Localization in Videos.** 12669-12678
- Zihang Meng, Licheng Yu, Ning Zhang, Tamara L. Berg, Babak Damavandi, Vikas Singh, Amy Bearman:  
**Connecting What To Say With Where To Look by Modeling Human Attention Traces.** 12679-12688
- Fengda Zhu, Xiwen Liang, Yi Zhu, Qizhi Yu, Xiaojun Chang , Xiaodan Liang:  
**SOON: Scenario Oriented Object Navigation With Graph-Based Exploration.** 12689-12699
- Yulei Niu, Kaihua Tang, Hanwang Zhang , Zhiwu Lu, Xian-Sheng Hua, Ji-Rong Wen:  
**Counterfactual VQA: A Cause-Effect Look at Language Bias.** 12700-12710
- Jimuyang Zhang, Eshed Ohn-Bar:  
**Learning by Watching.** 12711-12721
- Zhi Lu, Yang Hu, Yan Chen, Bing Zeng:  
**Personalized Outfit Recommendation With Learnable Anchors.** 12722-12731
- Peiyun Hu, Aaron Huang, John M. Dolan, David Held, Deva Ramanan :  
**Safe Local Motion Planning With Self-Supervised Freespace Forecasting.** 12732-12741
- Mariana-Iuliana Georgescu, Antonio Barbalau, Radu Tudor Ionescu, Fahad Shahbaz Khan, Marius Popescu , Mubarak Shah :  
**Anomaly Detection in Video via Self-Supervised and Multi-Task Learning.** 12742-12752
- Yasamin Jafarian, Hyun Soo Park:  
**Learning High Fidelity Depths of Dressed Humans by Watching Social Media Dance Videos.** 12753-12762
- Xueqian Li, Jhony Kaesemeyer Pontes, Simon Lucey :  
**PointNetLK Revisited.** 12763-12772
- Joseph G. Lambourne, Karl D. D. Willis, Pradeep Kumar Jayaraman, Aditya Sanghi, Peter Meltzer, Hooman Shayani:  
**BRepNet: A Topological Message Passing System for Solid Models.** 12773-12782
- Tomas Jakab, Richard Tucker, Ameesh Makadia, Jiajun Wu, Noah Snavely, Angjoo Kanazawa:  
**KeypointDeformer: Unsupervised 3D Keypoint Discovery for Shape Control.** 12783-12792
- Long Zhao , Yuxiao Wang, Jiapeng Zhao, Liangzhe Yuan, Jennifer J. Sun, Florian Schroff, Hartwig Adam, Xi Peng, Dimitris N. Metaxas, Ting Liu:  
**Learning View-Disentangled Human Pose Representation by Contrastive Cross-View Mutual Information Maximization.** 12793-12802
- Tarun Yenamandra, Ayush Tewari, Florian Bernard, Hans-Peter Seidel, Mohamed Elgarib, Daniel Cremers , Christian Theobalt :  
**i3DMM: Deep Implicit 3D Morphable Model of Human Heads.** 12803-12813
- Qi Fang, Qing Shuai, Junting Dong, Hujun Bao, Xiaowei Zhou:  
**Reconstructing 3D Human Pose by Watching Humans in the Mirror.** 12814-12823
- Peiqi Duan, Zihao W. Wang, Xinyu Zhou, Yi Ma, Boxin Shi:  
**EventZoom: Learning To Denoise and Super Resolve Neuromorphic Events.** 12824-12833
- Yongjie Zhu, Yinda Zhang, Si Li, Boxin Shi:  
**Spatially-Varying Outdoor Lighting Estimation From Intrinsics.** 12834-12842
- Ahmed Taha , Abhinav Shrivastava, Larry S. Davis:  
**Knowledge Evolution in Neural Networks.** 12843-12852
- Sahil Singla, Besmira Nushi, Shital Shah, Ece Kamar, Eric Horvitz:  
**Understanding Failures of Deep Networks via Robust Feature Extraction.** 12853-12862
- Zongze Wu, Dani Lischinski, Eli Shechtman:  
**StyleSpace Analysis: Disentangled Controls for StyleGAN Image Generation.** 12863-12872



- Patrick Esser, Robin Rombach, Björn Ommer:  
**Taming Transformers for High-Resolution Image Synthesis.** 12873-12883
- Grant Van Horn, Elijah Cole, Sara Beery , Kimberly Wilber, Serge J. Belongie , Oisin Mac Aodha:  
**Benchmarking Representation Learning for Natural World Image Collections.** 12884-12893
- Ashish Vaswani, Prajit Ramachandran, Aravind Srinivas, Niki Parmar, Blake A. Hechtman, Jonathon Shlens:  
**Scaling Local Self-Attention for Parameter Efficient Visual Backbones.** 12894-12904
- Leander Lacroix, Benjamin Charlier, Alain Trouvé, Barbara Gris:  
**IMODAL: Creating Learnable User-Defined Deformation Models.** 12905-12913
- Zechen Bai, Zhigang Wang, Jian Wang, Di Hu, Errui Ding:  
**Unsupervised Multi-Source Domain Adaptation for Person Re-Identification.** 12914-12923
- Prashant Pandey, Mrigank Raman, Sumanth Varambally, Prathosh AP:  
**Generalization on Unseen Domains via Inference-Time Label-Preserving Target Projections.** 12924-12933
- Pedro Morgado , Ishan Misra, Nuno Vasconcelos :  
**Robust Audio-Visual Instance Discrimination.** 12934-12945
- Abhishek Badki, Orazio Gallo, Jan Kautz, Pradeep Sen:  
**Binary TTC: A Temporal Geofence for Autonomous Navigation.** 12946-12955
- Fu-En Wang, Yu-Hsuan Yeh, Min Sun, Wei-Chen Chiu, Yi-Hsuan Tsai:  
**LED2-Net: Monocular 360deg Layout Estimation via Differentiable Depth Rendering.** 12956-12965
- Jong-Chyi Su, Zezhou Cheng, Subhransu Maji:  
**A Realistic Evaluation of Semi-Supervised Learning for Fine-Grained Classification.** 12966-12975
- Zhicheng Huang, Zhaoyang Zeng, Yupan Huang, Bei Liu, Dongmei Fu, Jianlong Fu:  
**Seeing Out of the Box: End-to-End Pre-Training for Vision-Language Representation Learning.** 12976-12985
- Menglin Jia, Zuxuan Wu, Austin Reiter, Claire Cardie, Serge J. Belongie , Ser-Nam Lim:  
**Intentonomy: A Dataset and Study Towards Human Intent Understanding.** 12986-12996
- Qiang Zhai, Xin Li, Fan Yang, Chenglizhao Chen, Hong Cheng, Deng-Ping Fan :  
**Mutual Graph Learning for Camouflaged Object Detection.** 12997-13007
- Weilin Zhang, Yu-Xiong Wang:  
**Hallucination Improves Few-Shot Object Detection.** 13008-13017
- Khoi Pham , Kushal Kafle, Zhe Lin, Zhihong Ding, Scott Cohen, Quan Tran, Abhinav Shrivastava:  
**Learning To Predict Visual Attributes in the Wild.** 13018-13028
- Chien-Yao Wang, Alexey Bochkovskiy , Hong-Yuan Mark Liao:  
**Scaled-YOLOv4: Scaling Cross Stage Partial Network.** 13029-13038
- Qiang Chen, Yingming Wang, Tong Yang, Xiangyu Zhang, Jian Cheng, Jian Sun:  
**You Only Look One-Level Feature.** 13039-13048
- Xingtong Liu , Benjamin D. Killeen, Ayushi Sinha, Masaru Ishii, Gregory D. Hager, Russell H. Taylor, Mathias Unberath:  
**Neighborhood Normalization for Robust Geometric Feature Learning.** 13049-13058
- Lele Chen, Chen Cao, Fernando De la Torre, Jason M. Saragih, Chenliang Xu, Yaser Sheikh:  
**High-Fidelity Face Tracking for AR/VR via Deep Lighting Adaptation.** 13059-13069
- Florian Kluger, Hanno Ackermann, Eric Brachmann, Michael Ying Yang , Bodo Rosenhahn:  
**Cuboids Revisited: Learning Robust 3D Shape Fitting to Single RGB Images.** 13070-13079
- Xin Wen, Zhizhong Han, Yan-Pei Cao, Pengfei Wan, Wen Zheng, Yu-Shen Liu:  
**Cycle4Completion: Unpaired Point Cloud Completion Using Cycle Transformation With Missing Region Coding.** 13080-13089
- Fangzhou Hong, Hui Zhou, Xinge Zhu, Hongsheng Li , Ziwei Liu:  
**LiDAR-Based Panoptic Segmentation via Dynamic Shifting Network.** 13090-13099
- Sk Aziz Ali, Kerem Kahraman, Gerd Reis, Didier Stricker :  
**RPSRNet: End-to-End Trainable Rigid Point Set Registration Network Using Barnes-Hut 2D-Tree Representation.** 13100-13110
- Zike Yan, Xin Wang, Hongbin Zha:  
**Online Learning of a Probabilistic and Adaptive Scene Representation.** 13111-13121
- Tolga Birdal , Vladislav Golyanik, Christian Theobalt , Leonidas J. Guibas:  
**Quantum Permutation Synchronization.** 13122-13133
- Yan Xu, Yu-Jhe Li, Xinshuo Weng, Kris Kitani:  
**Wide-Baseline Multi-Camera Calibration Using Person Re-Identification.** 13134-13143
- Wentao Yuan , Zhaoyang Lv, Tanner Schmidt, Steven Lovegrove:  
**STaR: Self-Supervised Tracking and Reconstruction of Rigid Objects in Motion With Neural Rendering.** 13144-13152
- Jae Yong Lee, Joseph DeGol, Victor Fragoso, Sudipta N. Sinha:  
**PatchMatch-Based Neighborhood Consensus for Semantic Correspondence.** 13153-13163
- Zhixiang Chen, Tae-Kyun Kim :  
**Learning Feature Aggregation for Deep 3D Morphable Models.** 13164-13173



- Adrien Poulenard, Leonidas J. Guibas:  
**A Functional Approach to Rotation Equivariant Non-Linearities for Tensor Field Networks.** 13174-13183
- Shunkai Li, Xin Wu, Yingdian Cao, Hongbin Zha:  
**Generalizing to the Open World: Deep Visual Odometry With Online Adaptation.** 13184-13193
- Zixiang Zhou, Yang Zhang, Hassan Foroosh:  
**Panoptic-PolarNet: Proposal-Free LiDAR Point Cloud Panoptic Segmentation.** 13194-13203
- Zhongzheng Ren, Ishan Misra, Alexander G. Schwing, Rohit Girdhar:  
**3D Spatial Recognition Without Spatially Labeled 3D.** 13204-13213
- Zhengwei Wang, Qi She, Aljosa Smolic:  
**ACTION-Net: Multipath Excitation for Action Recognition.** 13214-13223
- Basura Fernando, Samitha Herath:  
**Anticipating Human Actions by Correlating Past With the Future With Jaccard Similarity Measures.** 13224-13233
- Xubin Zhong, Xian Qu, Changxing Ding, Dacheng Tao:  
**Glance and Gaze: Inferring Action-Aware Points for One-Stage Human-Object Interaction Detection.** 13234-13243
- Akshay Mehra, Bhavya Kailkhura, Pin-Yu Chen, Jihun Hamm:  
**How Robust Are Randomized Smoothing Based Defenses to Data Poisoning?** 13244-13253
- Liang Tong, Zhengzhang Chen, Jingchao Ni, Wei Cheng, Dongjin Song, Haifeng Chen, Yevgeniy Vorobeychik:  
**FaceSec: A Fine-Grained Robustness Evaluation Framework for Face Recognition Systems.** 13254-13263
- Zhengxiong Luo, Zhicheng Wang, Yan Huang, Liang Wang, Tieniu Tan, Erjin Zhou:  
**Rethinking the Heatmap Regression for Bottom-Up Human Pose Estimation.** 13264-13273
- Xingyu Chen, Yufeng Liu , Chongyang Ma, Jianlong Chang, Huayan Wang, Tian Chen, Xiaoyan Guo, Pengfei Wan, Wen Zheng:  
**Camera-Space Hand Mesh Recovery via Semantic Aggregation and Adaptive 2D-1D Registration.** 13274-13283
- Ze Yang , Shenlong Wang, Sivabalan Manivasagam, Zeng Huang, Wei-Chiu Ma, Xinchen Yan, Ersin Yumer, Raquel Urtasun:  
**S3: Neural Shape, Skeleton, and Skinning Fields for 3D Human Modeling.** 13284-13293
- Bastian Wandt, Marco Rudolph, Petrissa Zell, Helge Rhodin, Bodo Rosenhahn:  
**CanonPose: Self-Supervised Monocular 3D Human Pose Estimation in the Wild.** 13294-13304
- Thao Nguyen, Anh Tuan Tran, Minh Hoai:  
**Lipstick Ain't Enough: Beyond Color Matching for In-the-Wild Makeup Transfer.** 13305-13314
- Pengyu Li, Biao Wang, Lei Zhang:  
**Virtual Fully-Connected Layer: Training a Large-Scale Face Recognition Dataset With Limited Computational Resources.** 13315-13324
- Sucheng Ren, Yong Du, Jianming Lv, Guoqiang Han, Shengfeng He :  
**Learning From the Master: Distilling Cross-Modal Advanced Knowledge for Lip Reading.** 13325-13333
- Xuehu Liu, Pingping Zhang, Chenyang Yu, Huchuan Lu, Xiaoyun Yang:  
**Watching You: Global-Guided Reciprocal Learning for Video-Based Person Re-Identification.** 13334-13343
- Yu Zhang, Daniel L. Lau, David Wipf:  
**Sparse Multi-Path Corrections in Fringe Projection Profilometry.** 13344-13353
- Xi Zhang , Xiaolin Wu:  
**Attention-Guided Image Compression by Deep Reconstruction of Compressive Sensed Saliency Skeleton.** 13354-13364
- Yang Liu, Zhenyue Qin, Saeed Anwar, Pan Ji, Dongwoo Kim, Sabrina B. Caldwell, Tom Gedeon:  
**Invertible Denoising Network: A Light Solution for Real Noise Removal.** 13365-13374
- Yinglong Wang, Chao Ma, Bing Zeng:  
**Multi-Decoding Deraining Network and Quasi-Sparsity Based Training.** 13375-13384
- Yunxuan Wei, Shuhang Gu, Yawei Li , Radu Timofte , Longcun Jin, Hengjie Song:  
**Unsupervised Real-World Image Super Resolution via Domain-Distance Aware Training.** 13385-13394
- Qian Zheng, Boxin Shi, Jinnan Chen, Xudong Jiang, Ling-Yu Duan, Alex C. Kot:  
**Single Image Reflection Removal With Absorption Effect.** 13395-13404
- Minshan Xie, Menghan Xia, Tien-Tsin Wong:  
**Exploiting Aliasing for Manga Restoration.** 13405-13414
- Jiaying Lin , Zebang He , Rynson W. H. Lau:  
**Rich Context Aggregation With Reflection Prior for Glass Surface Detection.** 13415-13424
- Yulun Zhang , Kai Li, Kunpeng Li, Yun Fu:  
**MR Image Super-Resolution With Squeeze and Excitation Reasoning Attention Network.** 13425-13434
- Yilin Wang, Junjie Ke, Hossein Talebi, Joong Gon Yim, Neil Birkbeck, Balu Adsumilli, Peyman Milanfar, Feng Yang:  
**Rich Features for Perceptual Quality Assessment of UGC Videos.** 13435-13444
- Richard T. Marriott, Sami Romdhani, Liming Chen:  
**A 3D GAN for Improved Large-Pose Facial Recognition.** 13445-13455



- Joakim Bruslund Haurum , Thomas B. Moeslund :  
**Sewer-ML: A Multi-Label Sewer Defect Classification Dataset and Benchmark.** 13456-13467
- Priyanka Patel, Chun-Hao P. Huang, Joachim Tesch, David T. Hoffmann, Shashank Tripathi, Michael J. Black:  
**AGORA: Avatars in Geography Optimized for Regression Analysis.** 13468-13478
- Zedong Tang, Fenlong Jiang, Maoguo Gong, Hao Li , Yue Wu , Fan Yu, Zidong Wang, Min Wang:  
**SKFAC: Training Neural Networks With Faster Kronecker-Factored Approximate Curvature.** 13479-13487
- Jie Song, Haofei Zhang , Xinchao Wang , Mengqi Xue , Ying Chen, Li Sun, Dacheng Tao, Mingli Song:  
**Tree-Like Decision Distillation.** 13488-13497
- Kartikeya Bhardwaj, Guihong Li, Radu Marculescu:  
**How Does Topology Influence Gradient Propagation and Model Performance of Deep Networks With DenseNet-Type Skip Connections?** 13498-13507
- Enzo Tartaglione, Carlo Alberto Barbano , Marco Grangetto:  
**EnD: Entangling and Disentangling Deep Representations for Bias Correction.** 13508-13517
- Stephan Alaniz, Diego Marcos, Bernt Schiele , Zeynep Akata:  
**Learning Decision Trees Recurrently Through Communication.** 13518-13527
- Ashkan Khakzar, Soroosh Baselizadeh, Saurabh Khanduja, Christian Rupprecht, Seong Tae Kim, Nassir Navab:  
**Neural Response Interpretation Through the Lens of Critical Pathways.** 13528-13538
- Nikita Durasov, Timur M. Bagautdinov, Pierre Baqué, Pascal Fua:  
**Masksembles for Uncertainty Estimation.** 13539-13548
- Shuyan Li, Xiu Li, Jiwen Lu , Jie Zhou:  
**Self-Supervised Video Hashing via Bidirectional Transformers.** 13549-13558
- Moritz Ibing, Isaak Lim , Leif Kobbelt :  
**3D Shape Generation With Grid-Based Implicit Functions.** 13559-13568
- Rui Xu, Xintao Wang, Kai Chen, Bolei Zhou, Chen Change Loy:  
**Positional Encoding As Spatial Inductive Bias in GANs.** 13569-13578
- Takuhiro Kaneko, Tatsuya Harada:  
**Blur, Noise, and Compression Robust Generative Adversarial Networks.** 13579-13589
- Jing Shi, Ning Xu, Yihang Xu, Trung Bui, Franck Dernoncourt, Chenliang Xu:  
**Learning by Planning: Language-Guided Global Image Editing.** 13590-13599
- Qing Jin , Jian Ren, Oliver J. Woodford, Jiazhao Wang, Geng Yuan, Yanzhi Wang, Sergey Tulyakov:  
**Teachers Do More Than Teach: Compressing Image-to-Image Models.** 13600-13611
- Yu-Hui Wen , Zhipeng Yang, Hongbo Fu, Lin Gao, Yanan Sun , Yong-Jin Liu:  
**Autoregressive Stylized Motion Synthesis With Generative Flow.** 13612-13621
- Tianxiang Ma, Bo Peng, Wei Wang, Jing Dong:  
**MUST-GAN: Multi-Level Statistics Transfer for Self-Driven Person Image Generation.** 13622-13631
- Nelson Nauata, Sepidehsadat Hosseini, Kai-Hung Chang, Hang Chu, Chin-Yi Cheng, Yasutaka Furukawa:  
**House-GAN++: Generative Adversarial Layout Refinement Network towards Intelligent Computational Agent for Professional Architects.** 13632-13641
- Diego Martín Arroyo, Janis Postels, Federico Tombari:  
**Variational Transformer Networks for Layout Generation.** 13642-13652
- Aliaksandr Siarohin, Oliver J. Woodford, Jian Ren, Menglei Chai, Sergey Tulyakov:  
**Motion Representations for Articulated Animation.** 13653-13662
- Zhengyu Chen , Jixie Ge, Heshen Zhan, Siteng Huang , Donglin Wang:  
**Pareto Self-Supervised Training for Few-Shot Learning.** 13663-13672
- Jaehyoung Yoo, Dongwook Lee, Changyong Son, Sangil Jung, ByungIn Yoo, Changkyu Choi, Jae-Joon Han, Bohyung Han:  
**RaScaNet: Learning Tiny Models by Raster-Scanning Images.** 13673-13682
- Chengyue Gong, Dilin Wang, Qiang Liu:  
**AlphaMatch: Improving Consistency for Semi-Supervised Learning With Alpha-Divergence.** 13683-13692
- Zhiyuan Dang, Cheng Deng, Xu Yang, Kun Wei, Heng Huang:  
**Nearest Neighbor Matching for Deep Clustering.** 13693-13702
- Kaihua Zhang, Mingliang Dong, Bo Liu, Xiao-Tong Yuan, Qingshan Liu:  
**DeepACG: Co-Saliency Detection via Semantic-Aware Contrast Gromov-Wasserstein Distance.** 13703-13712
- Qibin Hou, Daquan Zhou , Jiashi Feng:  
**Coordinate Attention for Efficient Mobile Network Design.** 13713-13722
- Kaicheng Yu, René Ranftl, Mathieu Salzmann:  
**Landmark Regularization: Ranking Guided Super-Net Training in Neural Architecture Search.** 13723-13732
- Xiaohan Ding, Xiangyu Zhang, Ningning Ma, Jungong Han, Guiguang Ding, Jian Sun:  
**RepVGG: Making VGG-Style ConvNets Great Again.** 13733-13742
- Tianyi Zhao, Kai Cao, Jiawen Yao , Isabella Nogues, Le Lu, Lingyun Huang, Jing Xiao, Zhaozheng Yin , Ling Zhang :  
**3D Graph Anatomy Geometry-Integrated Network for Pancreatic Mass Segmentation, Diagnosis, and**

**Quantitative Patient Management.** 13743-13752

Fenglin Liu, Xian Wu , Shen Ge, Wei Fan, Yuexian Zou:

**Exploring and Distilling Posterior and Prior Knowledge for Radiology Report Generation.** 13753-13762

Xiao Wang , Xiujun Shu, Zhipeng Zhang, Bo Jiang, Yaowei Wang, Yonghong Tian, Feng Wu:

**Towards More Flexible and Accurate Object Tracking With Natural Language: Algorithms and Benchmark.** 13763-13773

Zhihong Fu, Qingjie Liu, Zehua Fu, Yunhong Wang:

**STMTrack: Template-Free Visual Tracking With Space-Time Memory Networks.** 13774-13783

Kha Gia Quach, Pha A. Nguyen , Huu Le, Thanh-Dat Truong, Chi Nhan Duong, Minh-Triet Tran , Khoa Luu:

**DyGLIP: A Dynamic Graph Model With Link Prediction for Accurate Multi-Camera Multiple Object Tracking.** 13784-13793

Ali Dabouei, Sobhan Soleymani, Fariborz Taherkhani, Nasser M. Nasrabadi:

**SuperMix: Supervising the Mixing Data Augmentation.** 13794-13803

Shreyas Hampali, Sinisa Stekovic , Sayan Deb Sarkar, Chetan Srinivasa Kumar, Friedrich Fraundorfer, Vincent Lepetit:

**Monte Carlo Scene Search for 3D Scene Understanding.** 13804-13813

Sanjay Kariyappa, Atul Prakash , Moinuddin K. Qureshi:

**MAZE: Data-Free Model Stealing Attack Using Zeroth-Order Gradient Estimation.** 13814-13823

Yunzhong Hou , Liang Zheng :

**Visualizing Adapted Knowledge in Domain Transfer.** 13824-13833

Xiangyu Yue, Zangwei Zheng, Shanghang Zhang, Yang Gao, Trevor Darrell, Kurt Keutzer, Alberto L. Sangiovanni-Vincentelli:

**Prototypical Cross-Domain Self-Supervised Learning for Few-Shot Unsupervised Domain Adaptation.** 13834-13844

Li Yang, Zhezhi He, Junshan Zhang, Deliang Fan:

**KSM: Fast Multiple Task Adaption via Kernel-Wise Soft Mask Learning.** 13845-13853

Huan Lei, Naveed Akhtar , Ajmal Mian :

**Picasso: A CUDA-Based Library for Deep Learning Over 3D Meshes.** 13854-13864

Vinay Kumar Verma, Kevin J. Liang, Nikhil Mehta, Piyush Rai, Lawrence Carin:

**Efficient Feature Transformations for Discriminative and Generative Continual Learning.** 13865-13875

Yang Li, Shichao Kan, Jianhe Yuan, Wenming Cao, Zhihai He:

**Spatial Assembly Networks for Image Representation Learning.** 13876-13885

Lianghua Huang, Yu Liu, Bin Wang, Pan Pan, Yinghui Xu, Rong Jin:

**Self-Supervised Video Representation Learning by Context and Motion Decoupling.** 13886-13895

Wanhua Li , Xiaoke Huang , Jiwen Lu , Jianjiang Feng, Jie Zhou:

**Learning Probabilistic Ordinal Embeddings for Uncertainty-Aware Regression.** 13896-13905

Zhelun Shen, Yuchao Dai, Zhibo Rao :

**CFNet: Cascade and Fused Cost Volume for Robust Stereo Matching.** 13906-13915

Byeong-Uk Lee, Kyunghyun Lee, In So Kweon:

**Depth Completion Using Plane-Residual Representation.** 13916-13925

Chufeng Tang, Hang Chen, Xiao Li, Jianmin Li, Zhaoxiang Zhang, Xiaolin Hu:

**Look Closer To Segment Better: Boundary Patch Refinement for Instance Segmentation.** 13926-13935

Mohammed Suhail, Abhay Mittal , Behjat Siddique, Chris Broaddus, Jayan Eledath , Gérard G. Medioni, Leonid Sigal:

**Energy-Based Learning for Scene Graph Generation.** 13936-13945

Ryuhei Hamaguchi , Yasutaka Furukawa, Masaki Onishi, Ken Sakurada:

**Heterogeneous Grid Convolution for Adaptive, Efficient, and Controllable Computation.** 13946-13955

Xiong Zhang, Hongmin Xu, Hong Mo, Jianchao Tan, Cheng Yang, Lei Wang, Wenqi Ren:

**DCNAS: Densely Connected Neural Architecture Search for Semantic Image Segmentation.** 13956-13967

Qing Liu, Vignesh Ramanathan, Dhruv Mahajan, Alan L. Yuille, Zhenheng Yang:

**Weakly Supervised Instance Segmentation for Videos With Temporal Mask Consistency.** 13968-13978

Malik Boudiaf, Hoel Kervadec, Imtiaz Masud Ziko, Pablo Piantanida, Ismail Ben Ayed, Jose Dolz:

**Few-Shot Segmentation Without Meta-Learning: A Good Transductive Inference Is All You Need?** 13979-13988

You-Wei Luo, Chuan-Xian Ren:

**Conditional Bures Metric for Domain Adaptation.** 13989-13998

Shichao Kan, Yigang Cen, Yang Li, Vladimir Mladenovic, Zhihai He:

**Relative Order Analysis and Optimization for Unsupervised Deep Metric Learning.** 13999-14008

Jia-Chang Feng, Fa-Ting Hong, Wei-Shi Zheng:

**MIST: Multiple Instance Self-Training Framework for Video Anomaly Detection.** 14009-14018

Zhenqiang Ying, Maniratnam Mandal, Deepti Ghadiyaram, Alan C. Bovik:

**Patch-VQ: 'Patching Up' the Video Quality Problem.** 14019-14029

Zhaofan Qiu, Ting Yao, Chong-Wah Ngo, Xiao-Ping Zhang, Dong Wu, Tao Mei:

**Boosting Video Representation Learning With Multi-Faceted Integration.** 14030-14039



- Haoxin Chen, Hanjie Wu, Nanxuan Zhao, Sucheng Ren, Shengfeng He :  
**Delving Deep Into Many-to-Many Attention for Few-Shot Video Object Segmentation.** 14040-14049
- Sijin Wang, Ziwei Yao, Ruiping Wang, Zhongqin Wu, Xilin Chen:  
**FAIEr: Fidelity and Adequacy Ensured Image Caption Evaluation.** 14050-14059
- Mingjie Sun, Jimin Xiao, Eng Gee Lim:  
**Iterative Shrinking for Referring Expression Grounding Using Deep Reinforcement Learning.** 14060-14069
- Yunhua Zhang, Ling Shao, Cees G. M. Snoek:  
**Repetitive Activity Counting by Sight and Sound.** 14070-14079
- Xinya Ji, Hang Zhou, Kaisiyuan Wang, Wayne Wu, Chen Change Loy, Xun Cao, Feng Xu:  
**Audio-Driven Emotional Video Portraits.** 14080-14089
- Liwei Wang, Jing Huang , Yin Li, Kun Xu, Zhengyuan Yang, Dong Yu:  
**Improving Weakly Supervised Visual Grounding by Contrastive Knowledge Distillation.** 14090-14100
- Xin Ye, Yezhou Yang:  
**Hierarchical and Partially Observable Goal-Driven Policy Learning With Goals Relational Graph.** 14101-14110
- Kenneth Marino, Xinlei Chen, Devi Parikh, Abhinav Gupta, Marcus Rohrbach:  
**KRISP: Integrating Implicit and Symbolic Knowledge for Open-Domain Knowledge-Based VQA.** 14111-14121
- Zhan Qu, Huan Jin, Yang Zhou, Zhen Yang, Wei Zhang:  
**Focus on Local: Detecting Lane Marker From Bottom Up via Key Point.** 14122-14130
- Seunghwan Choi, Sunghyun Park, Minsoo Lee, Jaegul Choo:  
**VITON-HD: High-Resolution Virtual Try-On via Misalignment-Aware Normalization.** 14131-14140
- Stephen Hausler, Sourav Garg , Ming Xu, Michael Milford , Tobias Fischer :  
**Patch-NetVLAD: Multi-Scale Fusion of Locally-Global Descriptors for Place Recognition.** 14141-14152
- Daniel Rebain, Wei Jiang, Soroosh Yazdani, Ke Li, Kwang Moo Yi, Andrea Tagliasacchi:  
**DeRF: Decomposed Radiance Fields.** 14153-14161
- Zhe Li , Tao Yu, Zerong Zheng , Kaiwen Guo, Yebin Liu:  
**POSEFusion: Pose-Guided Selective Fusion for Single-View Human Volumetric Capture.** 14162-14172
- Haiyan Wang, Jiahao Pang, Muhammad Asad Lodhi, Yingli Tian, Dong Tian:  
**FESTA: Flow Estimation via Spatial-Temporal Attention for Scene Point Clouds.** 14173-14182
- Maolin Gao, Zorah Lähner , Johan Thunberg, Daniel Cremers , Florian Bernard:  
**Isometric Multi-Shape Matching.** 14183-14193
- Fangjinhua Wang, Silvano Galliani, Christoph Vogel, Pablo Speciale, Marc Pollefeys :  
**PatchmatchNet: Learned Multi-View Patchmatch Stereo.** 14194-14203
- Hehe Fan, Yi Yang, Mohan S. Kankanhalli :  
**Point 4D Transformer Networks for Spatio-Temporal Modeling in Point Cloud Videos.** 14204-14213
- Zhenyu Zhang, Yanhao Ge, Renwang Chen, Ying Tai , Yan Yan, Jian Yang, Chengjie Wang, Jilin Li, Feiyue Huang:  
**Learning To Aggregate and Personalize 3D Face From In-the-Wild Photo Collection.** 14214-14224
- Qiang Meng, Shichao Zhao, Zhida Huang, Feng Zhou:  
**MagFace: A Universal Representation for Face Recognition and Quality Assessment.** 14225-14234
- Xiang Zhang, Wei Liao, Lei Yu, Wen Yang, Gui-Song Xia :  
**Event-Based Synthetic Aperture Imaging With a Hybrid Network.** 14235-14244
- Kelvin C. K. Chan, Xintao Wang, Xiangyu Xu, Jinwei Gu, Chen Change Loy:  
**GLEAN: Generative Latent Bank for Large-Factor Image Super-Resolution.** 14245-14254
- Zhengang Li, Geng Yuan, Wei Niu , Pu Zhao , Yanyu Li, Yuxuan Cai, Xuan Shen, Zheng Zhan, Zhenglun Kong, Qing Jin , Zhiyu Chen, Sijia Liu, Kaiyuan Yang , Bin Ren, Yanzhi Wang, Xue Lin:  
**NPAS: A Compiler-Aware Framework of Unified Network Pruning and Architecture Search for Beyond Real-Time Mobile Acceleration.** 14255-14266
- Mihai Dusmanu, Johannes L. Schönberger, Sudipta N. Sinha, Marc Pollefeys :  
**Privacy-Preserving Image Features via Adversarial Affine Subspace Embeddings.** 14267-14277
- Ivan Anokhin, Kirill Demochkin, Taras Khakhulin, Gleb Sterkin, Victor Lempitsky, Denis Korzhenkov:  
**Image Generators With Conditionally-Independent Pixel Synthesis.** 14278-14287
- Fabio Pizzati, Pietro Cerri, Raoul de Charette:  
**CoMoGAN: Continuous Model-Guided Image-to-Image Translation.** 14288-14298
- Sijie Yan, Yuanjun Xiong, Kaustav Kundu, Shuo Yang, Siqi Deng, Meng Wang, Wei Xia, Stefano Soatto:  
**Positive-Congruent Training: Towards Regression-Free Model Updates.** 14299-14308
- Jindong Gu, Volker Tresp, Han Hu:  
**Capsule Network Is Not More Robust Than Convolutional Network.** 14309-14317
- Bin Li, Yin Li, Kevin W. Eliceiri:  
**Dual-Stream Multiple Instance Learning Network for Whole Slide Image Classification With Self-Supervised Contrastive Learning.** 14318-14328



- Fatemeh Sadat Saleh, Sadegh Aliakbarian, Hamid Rezatofighi, Mathieu Salzmann, Stephen Gould: **Probabilistic Tracklet Scoring and Inpainting for Multiple Object Tracking.** 14329-14339
- Abhimanyu Dubey, Vignesh Ramanathan, Alex Pentland, Dhruv Mahajan: **Adaptive Methods for Real-World Domain Generalization.** 14340-14349
- Heng Yang, Wei Dong, Luca Carlone, Vladlen Koltun: **Self-Supervised Geometric Perception.** 14350-14361
- Vladimir Tankovich, Christian Hane, Yinda Zhang, Adarsh Kowdle, Sean Ryan Fanello, Sofien Bouaziz: **HITNet: Hierarchical Iterative Tile Refinement Network for Real-time Stereo Matching.** 14362-14372
- Wenbo Hu, Hengshuang Zhao, Li Jiang , Jiaya Jia, Tien-Tsin Wong: **Bidirectional Projection Network for Cross Dimension Scene Understanding.** 14373-14382
- Qinwei Xu , Ruipeng Zhang , Ya Zhang , Yanfeng Wang, Qi Tian: **A Fourier-Based Framework for Domain Generalization.** 14383-14392
- Alireza Zareian, Kevin Dela Rosa, Derek Hao Hu, Shih-Fu Chang: **Open-Vocabulary Object Detection Using Captions.** 14393-14402
- Sergio Casas, Abbas Sadat, Raquel Urtasun: **MP3: A Unified Model To Map, Perceive, Predict and Plan.** 14403-14412
- Tommi Kerola, Jie Li, Atsushi Kanehira, Yasunori Kudo, Alexis Vallet, Adrien Gaidon: **Hierarchical Lovasz Embeddings for Proposal-Free Panoptic Segmentation.** 14413-14423
- Lu Zhang, Shuigeng Zhou, Jihong Guan, Ji Zhang: **Accurate Few-Shot Object Detection With Support-Query Mutual Guidance and Hybrid Loss.** 14424-14432
- Fengmin Shi, Jie Guo, Haonan Zhang, Shan Yang, Xiying Wang, Yanwen Guo: **GLAVNet: Global-Local Audio-Visual Cues for Fine-Grained Material Recognition.** 14433-14442
- Lu Qi, Jason Kuen, Jiuxiang Gu, Zhe Lin, Yi Wang, Yukang Chen, Yanwei Li, Jiaya Jia: **Multi-Scale Aligned Distillation for Low-Resolution Detection.** 14443-14453
- Peize Sun, Rufeng Zhang, Yi Jiang, Tao Kong, Chenfeng Xu, Wei Zhan, Masayoshi Tomizuka, Lei Li , Zehuan Yuan, Changhu Wang, Ping Luo: **Sparse R-CNN: End-to-End Object Detection With Learnable Proposals.** 14454-14463
- Yifan Sun, Qixing Huang, Dun-Yu Hsiao, Li Guan, Gang Hua: **Learning View Selection for 3D Scenes.** 14464-14473
- Armin Mustafa , Akin Caliskan, Lourdes Agapito , Adrian Hilton : **Multi-Person Implicit Reconstruction From a Single Image.** 14474-14483
- Andrei Zanfir, Eduard Gabriel Bazavan, Mihai Zanfir, William T. Freeman, Rahul Sukthankar, Cristian Sminchisescu: **Neural Descent for Visual 3D Human Pose and Shape.** 14484-14493
- Wu Zheng, Weiliang Tang, Li Jiang , Chi-Wing Fu: **SE-SSD: Self-Ensembling Single-Stage Object Detector From Point Cloud.** 14494-14503
- Siqi Fan , Qiulei Dong, Fenghua Zhu, Yisheng Lv, Peijun Ye, Fei-Yue Wang: **SCF-Net: Learning Spatial Contextual Features for Large-Scale Point Cloud Segmentation.** 14504-14513
- Haiwei Chen , Shichen Liu, Weikai Chen, Hao Li , Randall W. Hill Jr.: **Equivariant Point Network for 3D Point Cloud Analysis.** 14514-14523
- Marko Mihajlovic, Silvan Weder, Marc Pollefeys , Martin R. Oswald: **DeepSurfels: Learning Online Appearance Fusion.** 14524-14535
- Ling Hu, Qinsong Li , Shengjun Liu, Xinru Liu: **Efficient Deformable Shape Correspondence via Multiscale Spectral Manifold Wavelets Preservation.** 14536-14545
- Daniel Barath, Dmytro Mishkin, Ivan Eichhardt , Illia Shipachev, Jiri Matas : **Efficient Initial Pose-Graph Generation for Global SfM.** 14546-14555
- David B. Lindell, Julien N. P. Martel, Gordon Wetzstein : **AutoInt: Automatic Integration for Fast Neural Volume Rendering.** 14556-14565
- Ruojin Cai, Bharath Hariharan, Noah Snavely, Hadar Averbuch-Elor: **Extreme Rotation Estimation Using Dense Correlation Volumes.** 14566-14575
- Carl Olsson, Viktor Larsson, Fredrik Kahl: **A Quasiconvex Formulation for Radial Cameras.** 14576-14585
- Dominik Bauer , Timothy Patten, Markus Vincze: **ReAgent: Point Cloud Registration Using Imitation and Reinforcement Learning.** 14586-14594
- Julian Lienen, Eyke Hüllermeier, Ralph Ewerth, Nils Nommensen: **Monocular Depth Estimation via Listwise Ranking Using the Plackett-Luce Model.** 14595-14604
- Jongyoun Noh, Sanghoon Lee, Bumsub Ham: **HVPR: Hybrid Voxel-Point Representation for Single-Stage 3D Object Detection.** 14605-14614
- He Wang, Yezhen Cong, Or Litany, Yue Gao, Leonidas J. Guibas: **3DIoUMatch: Leveraging IoU Prediction for Semi-Supervised 3D Object Detection.** 14615-14624



- Yanyi Zhang, Xinyu Li, Ivan Marsic:  
**Multi-Label Activity Recognition Using Activity-Specific Features and Activity Correlations.** 14625-14635
- Byeoungdo Kim, SeongHyeon Park , Seokhwan Lee , Elbek Khoshimjonov, Dongsuk Kum, Junsoo Kim, Jeong Soo Kim, Jun Won Choi:  
**LaPred: Lane-Aware Prediction of Multi-Modal Future Trajectories of Dynamic Agents.** 14636-14645
- Zhi Hou, Baosheng Yu, Yu Qiao, Xiaojiang Peng, Dacheng Tao:  
**Detecting Human-Object Interaction via Fabricated Compositional Learning.** 14646-14655
- He Wang, Feixiang He, Zhixi Peng, Tianjia Shao, Yong-Liang Yang, Kun Zhou, David Hogg :  
**Understanding the Robustness of Skeleton-Based Action Recognition Under Adversarial Attack.** 14656-14665
- Athena Sayles, Ashish Hooda, Mohit Gupta, Rahul Chatterjee, Earlene Fernandes:  
**Invisible Perturbations: Physical Adversarial Examples Exploiting the Rolling Shutter Effect.** 14666-14675
- Zigang Geng, Ke Sun, Bin Xiao, Zhaoxiang Zhang, Jingdong Wang:  
**Bottom-Up Human Pose Estimation via Disentangled Keypoint Regression.** 14676-14686
- Shaowei Liu, Hanwen Jiang, Jiarui Xu, Sifei Liu , Xiaolong Wang:  
**Semi-Supervised 3D Hand-Object Poses Estimation With Interactions in Time.** 14687-14697
- Jingfan Guo, Jie Li, Rahul Narain , Hyun Soo Park:  
**Inverse Simulation: Reconstructing Dynamic Geometry of Clothed Humans via Optimal Control.** 14698-14707
- Mohamed Hassan, Partha Ghosh, Joachim Tesch, Dimitrios Tzionas, Michael J. Black:  
**Populating 3D Scenes by Learning Human-Scene Interaction.** 14708-14718
- Andrew Z. Hou, Ze Zhang, Michel Sarkis, Ning Bi, Yiyi Tong, Xiaoming Liu:  
**Towards High Fidelity Face Relighting With Realistic Shadows.** 14719-14728
- Wenyu Li , Tianchu Guo, Pengyu Li, Binghui Chen, Biao Wang, Wangmeng Zuo, Lei Zhang:  
**VirFace: Enhancing Face Recognition via Unlabeled Shallow Data.** 14729-14738
- Yufu Wang , Nikos Kolotouros, Kostas Daniilidis, Marc Badler:  
**Birds of a Feather: Capturing Avian Shape Models From Images.** 14739-14749
- Dengpan Fu, Dongdong Chen, Jianmin Bao, Hao Yang, Lu Yuan, Lei Zhang, Houqiang Li, Dong Chen:  
**Unsupervised Pre-Training for Person Re-Identification.** 14750-14759
- Zehao Chen, Qian Zheng, Peisong Niu, Huajin Tang, Gang Pan:  
**Indoor Lighting Estimation Using an Event Camera.** 14760-14770
- Dailan He, Yaoyan Zheng, Baocheng Sun, Yan Wang, Hongwei Qin:  
**Checkerboard Context Model for Efficient Learned Image Compression.** 14771-14780
- Tao Huang, Songjiang Li, Xu Jia, Huchuan Lu, Jianzhuang Liu:  
**Neighbor2Neighbor: Self-Supervised Denoising From Single Noisy Images.** 14781-14790
- Hong Wang, Zongsheng Yue, Qi Xie, Qian Zhao, Yefeng Zheng, Deyu Meng:  
**From Rain Generation to Rain Removal.** 14791-14801
- Jun Liu, Ryan Wen Liu , Jianing Sun, Tieyong Zeng:  
**Rank-One Prior: Toward Real-Time Scene Recovery.** 14802-14810
- Chenyang Lei, Qifeng Chen:  
**Robust Reflection Removal With Reflection-Free Flash-Only Cues.** 14811-14820
- Syed Waqas Zamir, Aditya Arora, Salman H. Khan, Munawar Hayat , Fahad Shahbaz Khan, Ming-Hsuan Yang, Ling Shao:  
**Multi-Stage Progressive Image Restoration.** 14821-14831
- Tomoki Ichikawa, Matthew Purri, Ryo Kawahara , Shohei Nobuhara , Kristin J. Dana, Ko Nishino:  
**Shape From Sky: Polarimetric Normal Recovery Under the Sky.** 14832-14841
- Yuemei Zhou, Gaochang Wu , Ying Fu, Kun Li, Yebin Liu:  
**Cross-MPI: Cross-Scale Stereo for Image Super-Resolution Using Multiplane Images.** 14842-14851
- Aaron Chadha, Yiannis Andreopoulos:  
**Deep Perceptual Preprocessing for Video Coding.** 14852-14861
- Minui Hong, Jinwoo Choi, Gunhee Kim:  
**StyleMix: Separating Content and Style for Enhanced Data Augmentation.** 14862-14870
- Mathew Monfort, SouYoung Jin, Alexander H. Liu, David Harwath, Rogério Feris, James R. Glass, Aude Oliva:  
**Spoken Moments: Learning Joint Audio-Visual Representations From Video Descriptions.** 14871-14881
- Tamar Rott Shaham, Michaël Gharbi, Richard Zhang, Eli Shechtman, Tomer Michaeli:  
**Spatially-Adaptive Pixelwise Networks for Fast Image Translation.** 14882-14891
- Xin Liu, Silvia L. Pintea, Fatemeh Karimi Nejadasl, Olaf Booij, Jan C. van Gemert:  
**No Frame Left Behind: Full Video Action Recognition.** 14892-14901
- Mohammadreza Salehi, Niousha Sadjadi, Soroosh Baselizadeh, Mohammad H. Rohban, Hamid R. Rabiee:  
**Multiresolution Knowledge Distillation for Anomaly Detection.** 14902-14912
- Zi Wang, Chengcheng Li, Xiangyang Wang:  
**Convolutional Neural Network Pruning With Structural Redundancy Reduction.** 14913-14922



- Chengrui Wang, Weihong Deng :  
**Representative Forgery Mining for Fake Face Detection.** 14923-14932
- Meike Nauta, Ron van Bree, Christin Seifert:  
**Neural Prototype Trees for Interpretable Fine-Grained Image Recognition.** 14933-14943
- Jeong Ryong Lee, Sewon Kim, Inyong Park, Taejoon Eo, Dosik Hwang:  
**Relevance-CAM: Your Model Already Knows Where To Look.** 14944-14953
- Yang Liu, Qingchao Chen , Samuel Albanie:  
**Adaptive Cross-Modal Prototypes for Cross-Domain Visual-Language Retrieval.** 14954-14964
- Bor-Chun Chen, Zuxuan Wu, Larry S. Davis, Ser-Nam Lim:  
**Efficient Object Embedding for Spliced Image Retrieval.** 14965-14975
- Jianwen Xie, Yifei Xu, Zilong Zheng, Song-Chun Zhu, Ying Nian Wu:  
**Generative PointNet: Deep Energy-Based Learning on Unordered Point Sets for 3D Generation, Reconstruction and Classification.** 14976-14985
- Ji Lin, Richard Zhang, Frieder Ganz, Song Han, Jun-Yan Zhu:  
**Anycost GANs for Interactive Image Synthesis and Editing.** 14986-14996
- Lucy Chai, Jun-Yan Zhu, Eli Shechtman, Phillip Isola, Richard Zhang:  
**Ensembling With Deep Generative Views.** 14997-15007
- Zeqi Li, Ruowei Jiang, Parham Aarabi:  
**Continuous Face Aging via Self-Estimated Residual Age Embedding.** 15008-15017
- Jie Cao, Luanxuan Hou, Ming-Hsuan Yang, Ran He, Zhenan Sun:  
**ReMix: Towards Image-to-Image Translation With Limited Data.** 15018-15027
- Fangneng Zhan, Yingchen Yu, Kaiwen Cui, Gongjie Zhang, Shijian Lu, Jianxiong Pan, Changgong Zhang, Feiying Ma, Xuansong Xie, Chunyan Miao:  
**Unbalanced Feature Transport for Exemplar-Based Image Translation.** 15028-15038
- Jae Shin Yoon, Lingjie Liu, Vladislav Golyanik, Kripasindhu Sarkar, Hyun Soo Park, Christian Theobalt :  
**Pose-Guided Human Animation From a Single Image in the Wild.** 15039-15048
- Sen He, Wentong Liao, Michael Ying Yang , Yongxin Yang, Yi-Zhe Song , Bodo Rosenhahn, Tao Xiang:  
**Context-Aware Layout to Image Generation With Enhanced Object Appearance.** 15049-15058
- Jinwoo Kim, Jaehoon Yoo, Juho Lee, Seunghoon Hong:  
**SetVAE: Learning Hierarchical Composition for Generative Modeling of Set-Structured Data.** 15059-15068
- Weijian Deng, Liang Zheng :  
**Are Labels Always Necessary for Classifier Accuracy Evaluation?** 15069-15078
- Yifan Zhao, Ke Yan, Feiyue Huang, Jia Li:  
**Graph-Based High-Order Relation Discovery for Fine-Grained Recognition.** 15079-15088
- Hao Guo, Song Wang :  
**Long-Tailed Multi-Label Visual Recognition by Collaborative Training on Uniform and Re-Balanced Samplings.** 15089-15098
- Zijian Hu , Zhengyu Yang , Xuefeng Hu, Ram Nevatia:  
**SimPLE: Similar Pseudo Label Exploitation for Semi-Supervised Classification.** 15099-15108
- Huafeng Liu , Jiaqi Wang, Liping Jing:  
**Cluster-Wise Hierarchical Generative Model for Deep Amortized Clustering.** 15109-15118
- Guotao Wang, Chenglizhao Chen, Deng-Ping Fan , Aimin Hao, Hong Qin:  
**From Semantic Categories to Fixations: A Novel Weakly-Supervised Visual-Auditory Saliency Detection Approach.** 15119-15128
- Dongsheng Ruan, Daiyin Wang, Yuan Zheng, Nenggan Zheng, Min Zheng:  
**Gaussian Context Transformer.** 15129-15138
- Zhicheng Yan, Xiaoliang Dai, Peizhao Zhang, Yuandong Tian, Bichen Wu, Matt Feiszli:  
**FP-NAS: Fast Probabilistic Neural Architecture Search.** 15139-15148
- Anil Kag, Venkatesh Saligrama :  
**Time Adaptive Recurrent Neural Network.** 15149-15158
- Jinzheng Cai, Youbao Tang, Ke Yan, Adam P. Harrison, Jing Xiao, Gigin Lin, Le Lu:  
**Deep Lesion Tracker: Monitoring Lesions in 4D Longitudinal Imaging Studies.** 15159-15169
- Jianzhe Lin, Ghazal Sahebzamani, Christina Luong, Fatemeh Taheri Dezaki, Mohammad H. Jafari, Purang Abolmaesumi, Teresa Tsang :  
**Reciprocal Landmark Detection and Tracking With Extremely Few Annotations.** 15170-15179
- Bin Yan, Houwen Peng, Kan Wu, Dong Wang, Jianlong Fu, Huchuan Lu:  
**LightTrack: Finding Lightweight Neural Networks for Object Tracking via One-Shot Architecture Search.** 15180-15189
- N. Dinesh Reddy, Laurent Guigues, Leonid Pishchulin, Jayan Elelath , Srinivasa G. Narasimhan :  
**TesseTrack: End-to-End Learnable Multi-Person Articulated 3D Pose Tracking.** 15190-15200



- Filippo Aleotti, Matteo Poggi, Stefano Mattoccia :  
**Learning Optical Flow From Still Images.** 15201-15211
- Chun-Hao Chang, George-Alexandru Adam, Anna Goldenberg:  
**Towards Robust Classification Model by Counterfactual and Invariant Data Generation.** 15212-15221
- Yifei Shi, Junwen Huang, Xin Xu , Yifan Zhang, Kai Xu:  
**StablePose: Learning 6D Object Poses From Geometrically Stable Patches.** 15222-15231
- Alon Zolfi, Moshe Kravchik, Yuval Elovici, Asaf Shabtai:  
**The Translucent Patch: A Physical and Universal Attack on Object Detectors.** 15232-15241
- Ni Xiao, Lei Zhang:  
**Dynamic Weighted Learning for Unsupervised Domain Adaptation.** 15242-15251
- Seunghun Lee, Sunghyun Cho, Sunghoon Im:  
**DRANet: Disentangling Representation and Adaptation Networks for Unsupervised Cross-Domain Adaptation.** 15252-15261
- Dan Hendrycks, Kevin Zhao, Steven Basart, Jacob Steinhardt, Dawn Song:  
**Natural Adversarial Examples.** 15262-15271
- Freyr Sverrisson, Jean Feydy, Bruno E. Correia, Michael M. Bronstein:  
**Fast End-to-End Learning on Protein Surfaces.** 15272-15281
- Pravendra Singh , Pratik Mazumder , Piyush Rai, Vinay P. Namboodiri :  
**Rectification-Based Knowledge Retention for Continual Learning.** 15282-15291
- Masoud Faraki, Xiang Yu, Yi-Hsuan Tsai, Yumin Suh, Manmohan Chandraker:  
**Cross-Domain Similarity Learning for Face Recognition in Unseen Domains.** 15292-15301
- Aviad Aberdam, Ron Litman, Shahar Tsiper, Oron Anschel, Ron Slossberg, Shai Mazor, R. Manmatha, Pietro Perona:  
**Sequence-to-Sequence Contrastive Learning for Text Recognition.** 15302-15312
- Ziqian Lin, Sreya Dutta Roy, Yixuan Li:  
**MOOD: Multi-Level Out-of-Distribution Detection.** 15313-15323
- Arda Düzçeker, Silvano Galliani, Christoph Vogel, Pablo Speciale, Mihai Dusmanu, Marc Pollefeys :  
**DeepVideoMVS: Multi-View Stereo on Video With Recurrent Spatio-Temporal Fusion.** 15324-15333
- Bowen Cheng, Ross B. Girshick, Piotr Dollár, Alexander C. Berg, Alexander Kirillov:  
**Boundary IoU: Improving Object-Centric Image Segmentation Evaluation.** 15334-15342
- Miao Hu, Yali Li, Lu Fang, Shengjin Wang:  
**A2-FPN: Attention Aggregation Based Feature Pyramid Network for Instance Segmentation.** 15343-15352
- Phi Vu Tran:  
**SSLayout360: Semi-Supervised Indoor Layout Estimation From 360deg Panorama.** 15353-15362
- Li Yi, Boqing Gong, Thomas A. Funkhouser:  
**Complete & Label: A Domain Adaptation Approach to Semantic Segmentation of LiDAR Point Clouds.** 15363-15373
- Tianyi Wei, Dongdong Chen, Wenbo Zhou, Jing Liao , Hanqing Zhao, Weiming Zhang, Nenghai Yu:  
**Improved Image Matting via Real-Time User Clicks and Uncertainty Estimation.** 15374-15383
- Nikita Araslanov, Stefan Roth:  
**Self-Supervised Augmentation Consistency for Adapting Semantic Segmentation.** 15384-15394
- Yiting Li, Haiyue Zhu, Yu Cheng, Wenxin Wang , Chek Sing Teo, Cheng Xiang, Prahlad Vadakkepat, Tong Heng Lee:  
**Few-Shot Object Detection via Classification Refinement and Distractor Retreatment.** 15395-15403
- Zhongqi Yue, Tan Wang, Qianru Sun, Xian-Sheng Hua, Hanwang Zhang :  
**Counterfactual Zero-Shot and Open-Set Visual Recognition.** 15404-15414
- Dongsheng An, Jianwen Xie, Ping Li:  
**Learning Deep Latent Variable Models by Short-Run MCMC Inference With Optimal Transport Correction.** 15415-15424
- Hui Lv , Chen Chen, Zhen Cui, Chunyan Xu, Yong Li, Jian Yang:  
**Learning Normal Dynamics in Videos With Meta Prototype Network.** 15425-15434
- Haixu Wu, Zhiyu Yao, Jianmin Wang , Mingsheng Long :  
**MotionRNN: A Flexible Model for Video Prediction With Spacetime-Varying Motions.** 15435-15444
- Zhaoyuan Yin, Jia Zheng , Weixin Luo, Shenhan Qian, Hanling Zhang, Shenghua Gao:  
**Learning To Recommend Frame for Interactive Video Object Segmentation in the Wild.** 15445-15454
- Sucheng Ren, Wenxi Liu, Yongtuo Liu, Haoxin Chen, Guoqiang Han, Shengfeng He :  
**Reciprocal Transformations for Unsupervised Video Object Segmentation.** 15455-15464
- Xuying Zhang, Xiaoshuai Sun, Yunpeng Luo, Jiayi Ji , Yiyi Zhou, Yongjian Wu, Feiyue Huang, Rongrong Ji:  
**RSTNet: Captioning With Adaptive Attention on Visual and Non-Visual Words.** 15465-15474
- Amaia Salvador, Erhan Gundogdu, Loris Bazzani, Michael Donoser:  
**Revamping Cross-Modal Recipe Retrieval With Hierarchical Transformers and Self-Supervised Learning.** 15475-15484



- Xudong Xu, Hang Zhou, Ziwei Liu, Bo Dai, Xiaogang Wang , Dahua Lin:  
**Visually Informed Binaural Audio Generation without Binaural Audios.** 15485-15494
- Ruohan Gao, Kristen Grauman:  
**VisualVoice: Audio-Visual Speech Separation With Cross-Modal Consistency.** 15495-15505
- Guang Feng, Zhiwei Hu, Lihe Zhang, Huchuan Lu:  
**Encoder Fusion Network With Co-Attention Embedding for Referring Image Segmentation.** 15506-15515
- Changan Chen, Ziad Al-Halah , Kristen Grauman:  
**Semantic Audio-Visual Navigation.** 15516-15525
- Jungin Park, Jiyoung Lee , Kwanghoon Sohn:  
**Bridge To Answer: Structure-Aware Graph Interaction Network for Video Question Answering.** 15526-15535
- Weixiang Yang, Qi Li, Wenxi Liu, Yuanlong Yu, Yuexin Ma, Shengfeng He , Jia Pan:  
**Projecting Your View Attentively: Monocular Road Scene Layout Estimation via Cross-View Transformation.** 15536-15545
- Kedan Li, Min Jin Chong, Jeffrey Zhang, Jingren Liu:  
**Toward Accurate and Realistic Outfits Visualization With Attention to Details.** 15546-15555
- Parth Kothari, Brian Siffringer, Alexandre Alahi:  
**Interpretable Social Anchors for Human Trajectory Forecasting in Crowds.** 15556-15566
- Valentin Deschaintre, Yiming Lin, Abhijeet Ghosh:  
**Deep Polarization Imaging for 3D Shape and SVBRDF Acquisition.** 15567-15576
- Ruibo Li, Guosheng Lin, Lihua Xie:  
**Self-Point-Flow: Self-Supervised Scene Flow Estimation From Point Clouds With Optimal Transport and Random Walk.** 15577-15586
- Ji Hou, Benjamin Graham, Matthias Nießner, Saining Xie:  
**Exploring Data-Efficient 3D Scene Understanding With Contrastive Scene Contexts.** 15587-15597
- Jiaming Sun , Yiming Xie, Linghao Chen, Xiaowei Zhou, Hujun Bao:  
**NeuralRecon: Real-Time Coherent 3D Reconstruction From Monocular Video.** 15598-15607
- Amir Ghodrati, Babak Ehteshami Bejnordi, Amirhossein Habibian:  
**FrameExit: Conditional Early Exiting for Efficient Video Recognition.** 15608-15618
- Jingtan Piao, Keqiang Sun, Quan Wang, Kwan-Yee Lin, Hongsheng Li :  
**Inverting Generative Adversarial Renderer for Face Reconstruction.** 15619-15628
- Shen Li, Jianqing Xu, Xiaqing Xu, Pengcheng Shen, Shaoxin Li, Bryan Hooi:  
**Spherical Confidence Learning for Face Recognition.** 15629-15637
- Tsuyoshi Takatani, Yuzuha Ito, Ayaka Ebisu, Yinqiang Zheng , Takahito Aoto:  
**Event-Based Bispectral Photometry Using Temporally Modulated Illumination.** 15638-15647
- Dehua Song, Yunhe Wang, Hanting Chen, Chang Xu , Chunjing Xu, Dacheng Tao:  
**AdderSR: Towards Energy Efficient Image Super-Resolution.** 15648-15657
- Xiangguo Zhang, Haotong Qin , Yifu Ding, Ruihao Gong , Qinghua Yan, Renshuai Tao, Yuhang Li, Fengwei Yu, Xianglong Liu :  
**Diversifying Sample Generation for Accurate Data-Free Quantization.** 15658-15667
- Kunal Chelani, Fredrik Kahl, Torsten Sattler:  
**How Privacy-Preserving Are Line Clouds? Recovering Scene Details From 3D Lines.** 15668-15678
- Takuhiro Kaneko:  
**Unsupervised Learning of Depth and Depth-of-Field Effect From Natural Images With Aperture Rendering Generative Adversarial Networks.** 15679-15688
- Zhengxia Zou, Tianyang Shi, Shuang Qiu, Yi Yuan, Zhenwei Shi:  
**Stylized Neural Painting.** 15689-15698
- Julieta Martinez, Jashan Shewakramani, Ting-Wei Liu, Ioan Andrei Barsan, Wenyuan Zeng, Raquel Urtasun:  
**Permute, Quantize, and Fine-Tune: Efficient Compression of Neural Networks.** 15699-15708
- Yongcheng Jing, Yiding Yang, Xinchao Wang , Mingli Song, Dacheng Tao:  
**Amalgamating Knowledge From Heterogeneous Graph Neural Networks.** 15709-15718
- Eunji Kim, Siwon Kim, Minji Seo, Sungroh Yoon:  
**XProtoNet: Diagnosis in Chest Radiography With Global and Local Explanations.** 15719-15728
- Alessandro Achille, Aditya Golatkar, Avinash Ravichandran, Marzia Polito, Stefano Soatto:  
**LQF: Linear Quadratic Fine-Tuning.** 15729-15739
- Zhiqin Chen, Vladimir G. Kim, Matthew Fisher, Noam Aigerman, Hao Zhang, Siddhartha Chaudhuri:  
**DECOR-GAN: 3D Shape Detailization by Conditional Refinement.** 15740-15749
- Xinlei Chen, Kaiming He:  
**Exploring Simple Siamese Representation Learning.** 15750-15758
- Yunhan Zhao, Shu Kong , Charless C. Fowlkes:  
**Camera Pose Matters: Improving Depth Prediction by Mitigating Pose Distribution Bias.** 15759-15768



- Xinyi Wu, Zhenyao Wu, Hao Guo, Lili Ju, Song Wang [\(id\)](#):  
**DANNet: A One-Stage Domain Adaptation Network for Unsupervised Nighttime Semantic Segmentation.** 15769-15778
- Yang Tan, Yang Li [\(id\)](#), Shao-Lun Huang:  
**OTCE: A Transferability Metric for Cross-Domain Cross-Task Representations.** 15779-15788
- Jiacheng Chen, Hexiang Hu [\(id\)](#), Hao Wu, Yuning Jiang, Changhu Wang:  
**Learning the Best Pooling Strategy for Visual Semantic Embedding.** 15789-15798
- Sriram Narayanan, Ramin Moslemi, Francesco Pittaluga, Buyu Liu, Manmohan Chandraker:  
**Divide-and-Conquer for Lane-Aware Diverse Trajectory Prediction.** 15799-15808
- Dipu Manandhar, Hailin Jin, John P. Collomosse:  
**Magic Layouts: Structural Prior for Component Detection in User Interface Designs.** 15809-15818
- Xue Yang, Liping Hou, Yue Zhou, Wentao Wang, Junchi Yan:  
**Dense Label Encoding for Boundary Discontinuity Free Rotation Detection.** 15819-15829
- Ayan Kumar Bhunia, Shuvrozit Ghose, Amandeep Kumar, Pinaki Nath Chowdhury, Aneeshan Sain [\(id\)](#), Yi-Zhe Song [\(id\)](#):  
**MetaHTR: Towards Writer-Adaptive Handwritten Text Recognition.** 15830-15839
- Tianyi Zhang, Jie Lin, Peng Hu, Bin Zhao, Mohamed M. Sabry Aly:  
**PSRR-MaxpoolNMS: Pyramid Shifted MaxpoolNMS With Relationship Recovery.** 15840-15848
- Jianfeng Wang, Lin Song, Zeming Li, Hongbin Sun, Jian Sun, Nanning Zheng:  
**End-to-End Object Detection With Fully Convolutional Network.** 15849-15858
- Xuyang Bai, Zixin Luo, Lei Zhou, Hongkai Chen, Lei Li [\(id\)](#), Zeyu Hu, Hongbo Fu, Chiew-Lan Tai:  
**PointDSC: Robust Point Cloud Registration Using Deep Spatial Consistency.** 15859-15869
- Yinlin Hu, Sébastien Speierer, Wenzel Jakob, Pascal Fua, Mathieu Salzmann:  
**Wide-Depth-Range 6D Object Pose Estimation in Space.** 15870-15879
- Jan Bechtold, Maxim Tatarchenko, Volker Fischer, Thomas Brox:  
**Fostering Generalization in Single-View 3D Reconstruction by Learning a Hierarchy of Local and Global Shape Priors.** 15880-15889
- Xuancheng Zhang, Yutong Feng, Siqi Li, Changqing Zou, Hai Wan, Xibin Zhao, Yandong Guo, Yue Gao:  
**View-Guided Point Cloud Completion.** 15890-15899
- Dogyoon Lee, Jaeha Lee, Junhyeop Lee, Hyeongmin Lee, Minhyeok Lee, Sungmin Woo, Sangyoun Lee:  
**Regularization Strategy for Point Cloud via Rigidly Mixed Sample.** 15900-15909
- Guangming Wang [\(id\)](#), Xinrui Wu, Zhe Liu, Hesheng Wang [\(id\)](#):  
**PWCLO-Net: Deep LiDAR Odometry in 3D Point Clouds Using Hierarchical Embedding Mask Optimization.** 15910-15919
- Olivia Wiles, Sébastien Ehrhardt, Andrew Zisserman:  
**Co-Attention for Conditioned Image Matching.** 15920-15929
- Rui Xiang, Rongjie Lai, Hongkai Zhao:  
**A Dual Iterative Refinement Method for Non-Rigid Shape Matching.** 15930-15939
- Yichao Zhou, Shichen Liu, Yi Ma:  
**NeRD: Neural 3D Reflection Symmetry Detector.** 15940-15949
- Yiming Zhao, Xinning Huang, Ziming Zhang:  
**Deep Lucas-Kanade Homography for Multimodal Image Alignment.** 15950-15959
- Jiaxin Li, Gim Hee Lee:  
**DeepI2P: Image-to-Point Cloud Registration via Deep Classification.** 15960-15969
- Hyunho Ha, Joo Ho Lee, Andreas Meuleman [\(id\)](#), Min H. Kim:  
**NormalFusion: Real-Time Acquisition of Surface Normals for High-Resolution RGB-D Scanning.** 15970-15979
- Gengshan Yang, Deqing Sun, Varun Jampani, Daniel Vlasic, Forrester Cole, Huiwen Chang, Deva Ramanan [\(id\)](#), William T. Freeman, Ce Liu:  
**LASR: Learning Articulated Shape Reconstruction From a Monocular Video.** 15980-15989
- Jiaqi Tan, Weijie Lin, Angel X. Chang, Manolis Savva:  
**Mirror3D: Depth Refinement for Mirror Surfaces.** 15990-15999
- Yuning Chai, Pei Sun, Jiquan Ngiam, Weiyue Wang, Benjamin Caine, Vijay Vasudevan, Xiao Zhang, Dragomir Anguelov:  
**To the Point: Efficient 3D Object Detection in the Range Image With Graph Convolution Kernels.** 16000-16009
- Can Zhang, Meng Cao, Dongming Yang, Jie Chen, Yuexian Zou:  
**CoLA: Weakly-Supervised Temporal Action Localization With Snippet Contrastive Learning.** 16010-16019
- Dan Kondratyuk, Liangzhe Yuan, Yandong Li, Li Zhang, Mingxing Tan, Matthew Brown, Boqing Gong:  
**MoViNets: Mobile Video Networks for Efficient Video Recognition.** 16020-16030
- Pengwan Yang, Pascal Mettes, Cees G. M. Snoek:  
**Few-Shot Transformation of Common Actions Into Time and Space.** 16031-16040
- Romero F. A. B. de Morais, Vuong Le, Svetha Venkatesh, Truyen Tran:  
**Learning Asynchronous and Sparse Human-Object Interaction in Videos.** 16041-16050



- Buu Phan, Fahim Mannan, Felix Heide:  
**Adversarial Imaging Pipelines.** 16051-16061
- Ranjie Duan, Xiaofeng Mao , A. Kai Qin, Yuefeng Chen, Shaokai Ye, Yuan He, Yun Yang:  
**Adversarial Laser Beam: Effective Physical-World Attack to DNNs in a Blink.** 16062-16071
- Lumin Xu , Yingda Guan, Sheng Jin , Wentao Liu, Chen Qian, Ping Luo, Wanli Ouyang, Xiaogang Wang :  
**ViPNAS: Efficient Video Pose Estimation via Neural Architecture Search.** 16072-16081
- Qianli Ma, Shunsuke Saito, Jinlong Yang, Siyu Tang , Michael J. Black:  
**SCALE: Modeling Clothed Humans with a Surface Codec of Articulated Local Elements.** 16082-16093
- Akash Sengupta, Ignas Budvytis, Roberto Cipolla:  
**Probabilistic 3D Human Shape and Pose Estimation From Multiple Unconstrained Images in the Wild.** 16094-16104
- Tianhan Xu, Wataru Takano:  
**Graph Stacked Hourglass Networks for 3D Human Pose Estimation.** 16105-16114
- Yue Gao, Fangyun Wei, Jianmin Bao, Shuyang Gu, Dong Chen, Fang Wen, Zhouhui Lian:  
**High-Fidelity and Arbitrary Face Editing.** 16115-16124
- Sunpill Kim , Yunseong Jeong, Jinsu Kim, Jungkon Kim, Hyung Tae Lee, Jae Hong Seo:  
**IronMask: Modular Architecture for Protecting Deep Face Template.** 16125-16134
- Wanhua Li , Shiwei Wang, Jiwen Lu , Jianjiang Feng, Jie Zhou:  
**Meta-Mining Discriminative Samples for Kinship Verification.** 16135-16144
- Yongxing Dai, Xiaotong Li, Jun Liu, Zekun Tong , Ling-Yu Duan:  
**Generalizable Person Re-Identification With Relevance-Aware Mixture of Experts.** 16145-16154
- Stepan Tulyakov, Daniel Gehrig , Stamatios Georgoulis, Julius Erbach, Mathias Gehrig, Yuanyou Li, Davide Scaramuzza :  
**Time Lens: Event-Based Video Frame Interpolation.** 16155-16164
- Jan P. Klopp, Keng-Chi Liu, Liang-Gee Chen, Shao-Yi Chien:  
**How To Exploit the Transferability of Learned Image Compression to Conventional Codecs.** 16165-16174
- Xiaowan Hu, Ruijun Ma, Zhihong Liu, Yuanhao Cai, Xiaole Zhao, Yulun Zhang , Haoqian Wang:  
**Pseudo 3D Auto-Correlation Network for Real Image Denoising.** 16175-16184
- Zhuoran Zheng, Wenqi Ren, Xiaochun Cao, Xiaobin Hu, Tao Wang , Fenglong Song, Xiuyi Jia:  
**Ultra-High-Definition Image Dehazing via Multi-Guided Bilateral Learning.** 16185-16194
- Wenjing Wang, Wenhan Yang, Jiaying Liu :  
**HLA-Face: Joint High-Low Adaptation for Low Light Face Detection.** 16195-16204
- Aupendu Kar, Sobhan Kanti Dhara, Debashis Sen, Prabir Kumar Biswas:  
**Zero-Shot Single Image Restoration Through Controlled Perturbation of Koschmieder's Model.** 16205-16215
- Tao Huang, Weisheng Dong, Xin Yuan, Jinjian Wu, Guangming Shi:  
**Deep Gaussian Scale Mixture Prior for Spectral Compressive Imaging.** 16216-16225
- Ziang Cheng, Hongdong Li, Yuta Asano , Yinqiang Zheng , Imari Sato:  
**Multi-View 3D Reconstruction of a Texture-Less Smooth Surface of Unknown Generic Reflectance.** 16226-16235
- Younghyun Jo, Seoung Wug Oh, Peter Vajda, Seon Joo Kim:  
**Tackling the Ill-Posedness of Super-Resolution Through Adaptive Target Generation.** 16236-16245
- Ziheng Cheng, Bo Chen, Guanliang Liu, Hao Zhang, Ruiying Lu, Zhengjue Wang, Xin Yuan:  
**Memory-Efficient Network for Large-Scale Video Compressive Sensing.** 16246-16255
- Zhihua Wang, Haotao Wang, Tianlong Chen, Zhangyang Wang, Kede Ma :  
**Troubleshooting Blind Image Quality Models in the Wild.** 16256-16265
- Tianjiao Li, Jun Liu, Wei Zhang, Yun Ni, Wenqian Wang, Zhiheng Li:  
**UAV-Human: A Large Benchmark for Human Behavior Understanding With Unmanned Aerial Vehicles.** 16266-16275
- Xiaoliang Dai, Alvin Wan, Peizhao Zhang, Bichen Wu, Zijian He, Zhen Wei, Kan Chen, Yuandong Tian, Matthew Yu, Peter Vajda, Joseph E. Gonzalez :  
**FBNetV3: Joint Architecture-Recipe Search Using Predictor Pretraining.** 16276-16285
- Pedro Savarese, David McAllester, Sudarshan Babu, Michael Maire:  
**Domain-Independent Dominance of Adaptive Methods.** 16286-16295
- Liqun Chen, Dong Wang, Zhe Gan, Jingjing Liu, Ricardo Henao, Lawrence Carin:  
**Wasserstein Contrastive Representation Distillation.** 16296-16305
- Tianlong Chen, Jonathan Frankle, Shiyu Chang, Sijia Liu, Yang Zhang, Michael Carbin, Zhangyang Wang:  
**The Lottery Tickets Hypothesis for Supervised and Self-Supervised Pre-Training in Computer Vision Models.** 16306-16316
- Yuchen Luo , Yong Zhang, Junchi Yan, Wei Liu:  
**Generalizing Face Forgery Detection With High-Frequency Features.** 16317-16326
- Mohammad A. A. K. Jalwana, Naveed Akhtar , Mohammed Bennamoun , Ajmal Mian :  
**CAMERAS: Enhanced Resolution and Sanity Preserving Class Activation Mapping for Image Saliency.** 16327-16336



- Hongxu Yin, Arun Mallya, Arash Vahdat, José M. Álvarez, Jan Kautz, Pavlo Molchanov:  
**See Through Gradients: Image Batch Recovery via GradInversion.** 16337-16346
- Peisong Wen, Qianqian Xu, Yangbangyan Jiang, Zhiyong Yang, Yuan He, Qingming Huang:  
**Seeking the Shape of Sound: An Adaptive Framework for Learning Voice-Face Association.** 16347-16356
- Xunguang Wang, Zheng Zhang , Baoyuan Wu, Fumin Shen, Guangming Lu:  
**Prototype-Supervised Adversarial Network for Targeted Attack of Deep Hashing.** 16357-16366
- Zonghui Guo, Haiyong Zheng, Yufeng Jiang, Zhaorui Gu, Bing Zheng:  
**Intrinsic Image Harmonization.** 16367-16376
- Rui Liu , Yixiao Ge, Ching Lam Choi, Xiaogang Wang , Hongsheng Li :  
**DivCo: Diverse Conditional Image Synthesis via Contrastive Generative Adversarial Network.** 16377-16386
- Jaskirat Singh, Liang Zheng :  
**Combining Semantic Guidance and Deep Reinforcement Learning for Generating Human Level Paintings.** 16387-16396
- Edward Zhang, Ricardo Martin-Brualla, Janne Kontkanen, Brian L. Curless:  
**No Shadow Left Behind: Removing Objects and Their Shadows Using Approximate Lighting and Geometry.** 16397-16406
- Chuanxia Zheng, Tat-Jen Cham , Jianfei Cai:  
**The Spatially-Correlative Loss for Various Image Translation Tasks.** 16407-16417
- Yang Zhao, Changyou Chen:  
**Unpaired Image-to-Image Translation via Latent Energy Transport.** 16418-16427
- Hezhen Hu, Weilun Wang, Wengang Zhou, Weichao Zhao, Houqiang Li:  
**Model-Aware Gesture-to-Gesture Translation.** 16428-16437
- Jiale Xu, Jia Zheng , Yanyu Xu , Rui Tang, Shenghua Gao:  
**Layout-Guided Novel View Synthesis From a Single Indoor Panorama.** 16438-16447
- Xueyan Zou, Linjie Yang, Ding Liu, Yong Jae Lee:  
**Progressive Temporal Feature Alignment Network for Video Inpainting.** 16448-16457
- Josip Djolonga, Jessica Yung, Michael Tschannen, Rob Romijnders, Lucas Beyer, Alexander Kolesnikov, Joan Puigcerver, Matthias Minderer, Alexander D'Amour, Dan Moldovan, Sylvain Gelly, Neil Houlsby, Xiaohua Zhai, Mario Lucic:  
**On Robustness and Transferability of Convolutional Neural Networks.** 16458-16468
- Yanzhao Wu , Ling Liu, Zhongwei Xie, Ka Ho Chow, Wenqi Wei:  
**Boosting Ensemble Accuracy by Revisiting Ensemble Diversity Metrics.** 16469-16477
- Jack Lanchantin, Tianlu Wang, Vicente Ordonez, Yanjun Qi:  
**General Multi-Label Image Classification With Transformers.** 16478-16488
- Zhisheng Zhong, Jiequan Cui, Shu Liu, Jiaya Jia:  
**Improving Calibration for Long-Tailed Recognition.** 16489-16498
- Bo Liu, Qiulei Dong, Zhanyi Hu:  
**Hardness Sampling for Self-Training Based Transductive Zero-Shot Learning.** 16499-16508
- Lai Jiang, Mai Xu, Xiaofei Wang, Leonid Sigal:  
**Saliency-Guided Image Translation.** 16509-16518
- Aravind Srinivas, Tsung-Yi Lin, Niki Parmar, Jonathon Shlens, Pieter Abbeel, Ashish Vaswani:  
**Bottleneck Transformers for Visual Recognition.** 16519-16529
- Minghao Chen, Jianlong Fu, Haibin Ling:  
**One-Shot Neural Ensemble Architecture Search by Diversity-Guided Search Space Shrinking.** 16530-16539
- Alireza Sepas-Moghaddam , Fernando Pereira , Paulo Lobato Correia , Ali Etemad:  
**Multi-Perspective LSTM for Joint Visual Representation Learning.** 16540-16548
- Jevgenij Gamper, Nasir M. Rajpoot:  
**Multiple Instance Captioning: Learning Representations From Histopathology Textbooks and Articles.** 16549-16559
- Suprosanna Shit , Johannes C. Paetzold, Anjany Sekuboyina, Ivan Ezhev, Alexander Unger, Andrey Zhylka , Josien P. W. Pluim, Ulrich Bauer , Bjoern H. Menze :  
**clDice - A Novel Topology-Preserving Loss Function for Tubular Structure Segmentation.** 16560-16569
- Wencheng Han, Xingping Dong, Fahad Shahbaz Khan, Ling Shao, Jianbing Shen:  
**Learning To Fuse Asymmetric Feature Maps in Siamese Trackers.** 16570-16580
- Adam W. Harley, Yiming Zuo , Jing Wen, Ayush Mangal, Shubhankar Potdar, Ritwick Chaudhry, Katerina Fragkiadaki:  
**Track, Check, Repeat: An EM Approach to Unsupervised Tracking.** 16581-16591
- Shihao Jiang, Yao Lu, Hongdong Li, Richard Hartley:  
**Learning Optical Flow From a Few Matches.** 16592-16600
- Denis A. Gudovskiy, Luca Rigazio, Shun Ishizaka, Kazuki Kozuka, Sotaro Tsukizawa:  
**AutoDO: Robust AutoAugment for Biased Data With Label Noise via Scalable Probabilistic Implicit Differentiation.** 16601-16610



- Gu Wang, Fabian Manhardt, Federico Tombari, Xiangyang Ji:  
**GDR-Net: Geometry-Guided Direct Regression Network for Monocular 6D Object Pose Estimation.** 16611-16621
- Xiangning Chen, Cihang Xie , Mingxing Tan, Li Zhang, Cho-Jui Hsieh, Boqing Gong:  
**Robust and Accurate Object Detection via Adversarial Learning.** 16622-16631
- Jian Liang, Dapeng Hu, Jiashi Feng:  
**Domain Adaptation With Auxiliary Target Domain-Oriented Classifier.** 16632-16642
- Guoqiang Wei, Cuiling Lan, Wenjun Zeng , Zhibo Chen:  
**MetaAlign: Coordinating Domain Alignment and Classification for Unsupervised Domain Adaptation.** 16643-16653
- Yangye Fu, Ming Zhang, Xing Xu, Zuo Cao, Chao Ma, Yanli Ji, Kai Zuo, Huimin Lu:  
**Partial Feature Selection and Alignment for Multi-Source Domain Adaptation.** 16654-16663
- Léo Lebrat, Rodrigo Santa Cruz, Clinton Fookes, Olivier Salvado :  
**MongeNet: Efficient Sampler for Geometric Deep Learning.** 16664-16673
- Yujun Shi, Li Yuan, Yunpeng Chen , Jiashi Feng:  
**Continual Learning via Bit-Level Information Preserving.** 16674-16683
- Zhenda Xie, Yutong Lin, Zheng Zhang, Yue Cao, Stephen Lin, Han Hu:  
**Propagate Yourself: Exploring Pixel-Level Consistency for Unsupervised Visual Representation Learning.** 16684-16693
- Yunhang Shen , Liujuan Cao, Zhiwei Chen, Feihong Lian, Baochang Zhang, Chi Su, Yongjian Wu, Feiyue Huang, Rongrong Ji:  
**Toward Joint Thing-and-Stuff Mining for Weakly Supervised Panoptic Segmentation.** 16694-16705
- Yu-Kai Huang, Yueh-Cheng Liu, Tsung-Han Wu, Hung-Ting Su, Yu-Cheng Chang, Tsung-Lin Tsou, Yu-An Wang, Winston H. Hsu:  
**S3: Learnable Sparse Signal Superdensity for Guided Depth Estimation.** 16706-16716
- Xiaolei Lv, Shengchu Zhao, Xinyang Yu, Binqiang Zhao:  
**Residential Floor Plan Recognition and Reconstruction.** 16717-16726
- Tuan Tran Anh , Khoa Nguyen-Tuan, Tran Minh Quan, Won-Ki Jeong:  
**ColorRL: Reinforced Coloring for End-to-End Instance Segmentation.** 16727-16736
- Dongkwon Jin, Wonhui Park, Seong-Gyun Jeong, Chang-Su Kim:  
**Harmonious Semantic Line Detection via Maximal Weight Clique Selection.** 16737-16745
- Weixiang Hong, Qingpei Guo, Wei Zhang, Jingdong Chen, Wei Chu:  
**LPSNet: A Lightweight Solution for Fast Panoptic Segmentation.** 16746-16754
- Chuong Huynh, Anh Tuan Tran, Khoa Luu, Minh Hoai:  
**Progressive Semantic Segmentation.** 16755-16764
- Tong Wu, Junshi Huang, Guangyu Gao, Xiaoming Wei, Xiaolin Wei, Xuan Luo, Chi Harold Liu:  
**Embedded Discriminative Attention Mechanism for Weakly Supervised Semantic Segmentation.** 16765-16774
- Xu Yang, Cheng Deng, Zhiyuan Dang, Kun Wei, Junchi Yan:  
**SelfSAGCN: Self-Supervised Semantic Alignment for Graph Convolution Network.** 16775-16784
- Eduardo Fernandes Montesuma , Fred Maurice Ngolé Mboula:  
**Wasserstein Barycenter for Multi-Source Domain Adaptation.** 16785-16793
- Jang Hyun Cho, Utkarsh Mall, Kavita Bala , Bharath Hariharan:  
**PiCIE: Unsupervised Semantic Segmentation Using Invariance and Equivariance in Clustering.** 16794-16804
- Shang-Hua Gao, Qi Han, Zhong-Yu Li, Pai Peng, Liang Wang, Ming-Ming Cheng :  
**Global2Local: Efficient Structure Search for Video Action Segmentation.** 16805-16814
- Nasim Shafiee, Taskin Padir, Ehsan Elhamifar:  
**Introvert: Human Trajectory Prediction via Conditional 3D Attention.** 16815-16825
- Wangbo Zhao, Jing Zhang, Long Li, Nick Barnes, Nian Liu, Junwei Han:  
**Weakly Supervised Video Salient Object Detection.** 16826-16835
- Wenbin Ge, Xiankai Lu, Jianbing Shen:  
**Video Object Segmentation Using Global and Instance Embedding Learning.** 16836-16845
- Long Chen , Zhihong Jiang, Jun Xiao, Wei Liu:  
**Human-Like Controllable Image Captioning With Verb-Specific Semantic Roles.** 16846-16856
- Gül Varol, Liliane Momeni, Samuel Albanie, Triantafyllos Afouras, Andrew Zisserman:  
**Read and Attend: Temporal Localisation in Sign Language Videos.** 16857-16866
- Honglie Chen, Weidi Xie, Triantafyllos Afouras, Arsha Nagrani, Andrea Vedaldi, Andrew Zisserman:  
**Localizing Visual Sounds the Hard Way.** 16867-16876
- Paul Hongsuck Seo, Arsha Nagrani, Cordelia Schmid:  
**Look Before You Speak: Visually Contextualized Utterances.** 16877-16887
- Binbin Huang, Dongze Lian, Weixin Luo, Shenghua Gao:  
**Look Before You Leap: Learning Landmark Features for One-Stage Visual Grounding.** 16888-16897



- Bar Mayo, Tamir Hazan, Ayellet Tal:  
**Visual Navigation With Spatial Attention.** 16898-16907
- Yuanyuan Yuan, Shuai Wang, Mingyue Jiang, Tsong Yueh Chen:  
**Perception Matters: Detecting Perception Failures of VQA Models Using Metamorphic Testing.** 16908-16917
- Giancarlo Di Biase, Hermann Blum , Roland Siegwart, César Cadena :  
**Pixel-Wise Anomaly Detection in Complex Driving Scenes.** 16918-16927
- Chongjian Ge, Yibing Song, Yuying Ge, Han Yang, Wei Liu, Ping Luo:  
**Disentangled Cycle Consistency for Highly-Realistic Virtual Try-On.** 16928-16937
- Peer Neubert, Stefan Schubert:  
**Hyperdimensional Computing as a Framework for Systematic Aggregation of Image Descriptors.** 16938-16947

---

**VALID HTML** last updated on 2024-12-11 20:32 CET by the dblp team

all metadata released as open data under CC0 1.0 license

see also: [Terms of Use](#) | [Privacy Policy](#) | [Imprint](#)

dblp was originally created in 1993 at:



since 2018, dblp has been operated and maintained by:



the dblp computer science bibliography is funded and supported by:

