Google Research

CVPR 2020

At Google, research in machine perception tackles the hard problems of understanding images, sounds, music, and video This research allows us to better serve our users by enabling a variety of applications such as content-based search in Google Photos and Image Search, natural handwriting interfaces for Android, optical character recognition for Google Drive documents, and recommendation systems that understand music and YouTube videos. Our approach is driven by developing cutting-edge algorithms that benefit from processing very large, partially-labeled datasets using state-of-the-art hardware, leveraging the ability to mine meaningful information from multimedia. While at CVPR, we hope you'll connect with our researchers who are actively pursuing the next generation of intelligent systems that utilize the latest machine learning techniques. To learn more about the research we're presenting at CVPR 2020, please see the list below (Googlers **bolded**).

Committees

General Chair:	**Ramin Zabih**
Program Chair:	**Ce Liu**
Workshop Chair:	**Tali Dekel**
Website Chair:	**Tianfan Xue**
Technical Chair:	**Daniel Vlasic**
Area Chairs:	**Alexander Toshev, Alexey Dosovitskiy, Boqing Gong, Caroline Pantofaru, Chen Sun, Deqing Sun, Dilip Krishnan, Feng Yang, Liang-Chieh Chen, Michael Rubinstein, Rodrigo Benenson, Timnit Gebru, Thomas Funkhouser, Varun Jampani, Vittorio Ferrari, William Freeman**

Sunday, June 14

Workshops

3rd Workshop and Challenge on Learned Image Compression
George Toderici, *Wenzhe Shi,* ***Eirikur Agustsson***, *Radu Timofte,* ***Lucas Theis***, ***Johannes Ballé***, ***Nick Johnston***, *Fabian Mentzer*
June 14; Full-Day
Workshop URL

CLVISION 1st Workshop on Continual Learning in Computer Vision
Pau Rodriguez, German I. Parisi, David Vazquez, Vincenzo Lomonaco, Nikhil Churamani, ***Zhiyuan (Brett) Chen***, *Marc Pickett*
June 14; Full-Day
Workshop URL

Embodied AI
Aniruddha Kembhavi, Roozbeh Mottaghi, Dustin Schwenk, Eric Kolve, Ali Farhadi, ***Alexander Toshev****, Roberto Mart´ın-Mart´ın, Amir Zamir,* ***Jie Tan****,* ***Aleksandra Faust****,* ***Anelia Angelova****, Erik Wijmans, Samyak Datta, Abhishek Kadian, Oleksandr Maksymets, Julia Straub, Jitendra Malik, Vladlen Koltun, Stefan Lee, Angel X. Chang, Manolis Savva, Devi Parikh, Dhruv Batra, German Ros, Jose M. Alvarez, Jose A. Iglesias-Guitian, Antonio Lopez, Yongjoon Lee, Vangelis Kokkevis, Philipp Slusallek*
June 14; Full-Day
June 15; Full-Day
Workshop URL

The 1st International Workshop and Prize Challenge on Agriculture-Vision: Challenges & Opportunities for Computer Vision in Agriculture
Humphrey Honghui Shi, Naira Hovakimyan, Thomas S. Huang, ***Zhen Li****, Adrian Tudor, Robert E. Paull,* ***Jim Yuan***
June 14; Full-Day
Workshop URL

Tutorials

How to be a good reviewer … as part of The System
Vittorio Ferrari
June 14; Afternoon
Tutorial URL

Disentangled 3D Representations for Relightable Performance Capture of Humans
Sean Fanello, Christoph Rhemann, Jonathan Taylor, Sofien Bouaziz, Adarsh Kowdle, Rohit Pandey, Sergio Orts-Escolano, Paul Debevec, Shahram Izadi
June 14; Full-Day
Tutorial URL

Learning Representations via Graph-Structured Networks
Xiaolong Wang, Sifei Liu, Saining Xie, Shubham Tulsiani, ***Chen Sun****, Han Hu, Jan Kautz,* ***Ming-Hsuan Yang****, Abhinav Gupta, Trevor Darrell*
June 14; Afternoon
Tutorial URL

Novel View Synthesis: From Depth-Based Warping to Multi-Plane Images and Beyond
Orazio Gallo, Alejandro Troccoli, ***Varun Jampani***
June 14; Full-Day
Tutorial URL

Monday, June 15

Workshops

Embodied AI
Aniruddha Kembhavi, Roozbeh Mottaghi, Dustin Schwenk, Eric Kolve, Ali Farhadi, ***Alexander Toshev****, Roberto Mart´ın-Mart´ın, Amir Zamir,* ***Jie Tan****,* ***Aleksandra Faust,*** ***Anelia Angelova****, Erik Wijmans, Samyak Datta, Abhishek Kadian, Oleksandr Maksymets, Julia Straub, Jitendra Malik, Vladlen Koltun, Stefan Lee, Angel X. Chang, Manolis Savva, Devi Parikh, Dhruv Batra, German Ros, Jose M. Alvarez, Jose A. Iglesias-Guitian, Antonio Lopez, Yongjoon Lee, Vangelis Kokkevis, Philipp Slusallek*
June 14; Full-Day
June 15; Full-Day
Workshop URL

New Trends in Image Restoration and Enhancement workshop and challenges on image and video restoration and enhancement (NTIRE)
Talk: “Sky Optimization: Semantically aware image processing of skies in low-light photography”
Orly Liba, Longqi Cai, Yun-Ta Tsai, Elad Eban, Yair Movshovitz-Attias, Yael Pritch, Huizhong Chen, Jonathan Barron
June 15; 12.50 - 1.00 PM
Workshop URL

The End-of-End-to-End A Video Understanding Pentathlon
Samuel Albanie, Yang Liu, Arsha Nagrani, Antoine Miech, Ernesto Coto, Ivan Laptev, ***Rahul Sukthankar****, Bernard Ghanem, Andrew Zisserman*
June 15; Afternoon
Workshop URL

4th Workshop on Media Forensics
Arslan Basharat, ***Christoph Bregler****, Cristian Canton, Davide Cozzolino, Edward Delp, Sergio Escalera, Hany Farid, Sam Gregory, Guodong Guo, Isabelle Guyon, Hugo Jair, Laura Leal-Taixé, Ser-Nam Lim, Scott McCloskey, Matthias Nießner, Andreas Rössler, Christa Scharfenberg, Justus Thies, Luisa Verdoliva, Jun Wan*
June 15; Full-Day
Workshop URL

4th Workshop on Visual Understanding by Learning from Web Data
Wen Li, Hilde Kuehne, Suman Saha, Qin Wang, Limin Wang, Wei Li, ***Jesse Berent****, Abhinav Gupta,* ***Rahul Sukthankar****, Luc Van Gool*
June 15; Full-Day
Workshop URL

AI for Content Creation
Deqing Sun*, Ming-Yu Liu,* ***Lu Jiang****, James Tompkin,* ***Weilong Yang****, Kalyan Sunkavalli*
June 15; Full-Day
Workshop URL

Fourth Workshop on Computer Vision for AR/VR
Fernando De la Torre , ***Sofien Bouaziz****, Harald Haraldsson, Serge Belongie, Andrew Rabinovich, Matt Uyttendaele*
June 15; Full-Day
Workshop URL

Low-Power Computer Vision Competition (LPCVC)
Hartwig Adam, Mohamed M. Sabry Aly, Alexander, C Berg, Yiran Chen, ***Bo Chen****, Yen-Kuang Chen,* ***Andrew Howard****, Christian Keller,* ***Jaeyoun Kim****, Mark Liao, Yung-Hsiang Lu, An Luo, Ryan McBee, Andreas Moshovos, Ashish Sirasao, Joseph Spisak, Yueh-Hua Wu, Junsong Yuan*
June 15; Full-Day
Workshop URL

Sight and Sound
Andrew Owens, Jiajun Wu, Jean-Charles Bazin, Andrew Zisserman, ***William Freeman****, Antonio Torralba, Kristen Grauman*
June 15; Full-Day
Workshop URL

Workshop on Efficient Deep Learning for Computer Vision
Li Liu, Yu Liu, Wanli Ouyang, Jiwen Lu, Matti Pietikäinen, Luc Van Gool, Chris Rowen, Peizhao Zhang, ***Pete Warden****, Kurt Keutzer, Jonathan Dekhtiar, Wojciech Samek, Yingyan Lin, Werner Bailer, Peter Vajda*
June 15; Full-Day
Workshop URL

Tutorials

Neural Rendering
Ayush Tewari, Ohad Fried, Justus Thies, Vincent Sitzmann, Stephen Lombardi, Kalyan Sunkavalli, ***Ricardo Martin-Brualla****, Tomas Simon, Jason Saragih, Matthias Nießner,* ***Rohit K. Pandey****,* ***Sean Fanello,*** *Gordon Wetzstein, Jun-Yan Zhu, Christian Theobalt,* ***Maneesh Agrawala****, Eli Shechtman,* ***Dan B. Goldman****, Michael Zollhöfer*
June 15; Full-Day
Tutorial URL

Tuesday, June 16

Orals

Evolving Losses for Unsupervised Video Representation Learning
AJ Piergiovanni, Anelia Angelova, Michael Ryoo
10:05 & 22:05
Link to Paper

CvxNet: Learnable Convex Decomposition
Boyang Deng, Kyle Genova, Soroosh Yazdani, Sofien Bouaziz, Geoffrey Hinton, Andrea Tagliasacchi
10:15 & 22:15
Link to Paper

Neural SDE: Stabilizing Neural ODE Networks with Stochastic Noise
Xuanqing Liu, Tesi Xiao, ***Si Si****,* ***Qin Cao****,* ***Sanjiv Kumar****, Cho-Jui Hsieh*
10:25 & 22:25
Link to Paper

Scalability in Perception for Autonomous Driving: Waymo Open Dataset
Pei Sun, Henrik Kretzschmar, Xerxes Dotiwalla, Aurélien Chouard, Vijaysai Patnaik, Paul Tsui, James Guo, Yin Zhou, Yuning Chai, ***Benjamin Caine****,* ***Vijay Vasudevan****,* ***Wei Han****,* ***Jiquan Ngiam,*** *Hang Zhao, Aleksei Timofeev, Scott Ettinger, Maxim Krivokon, Amy Gao, Aditya Joshi, Sheng Zhao, Shuyang Chen, Yu Zhang,* ***Jon Shlens****,* ***Zhifeng Chen****, Dragomir Anguelov*
12:00 & 0:00
Link to Paper

Authors with Google affiliations are bolded

Deep Implicit Volume Compression
Saurabh Singh, Danhang Tang, Cem Keskin, Philip Chou, Christian Haene, Mingsong Dou, Sean Fanello, Jonathan Taylor, Andrea Tagliasacchi, Philip Davidson, Yinda Zhang, Onur Guleryuz, Shahram Izadi, Sofien Bouaziz
12:20 & 00:20
Link to Paper

Neural Networks Are More Productive Teachers Than Human Raters: Active Mixup for Data-Efficient Knowledge Distillation from a Blackbox Model
Dongdong Wan, Yandong Li, Liqiang Wang, and ***Boqing Gong***
12:20 & 00:20
Link to Paper

Google Landmarks Dataset v2 - A Large-Scale Benchmark for Instance-Level Recognition and Retrieval
Tobias Weyand, *Andre Ar****aujo, Jack Sim, Bingyi Cao***
14:00 & 2:00
Link to Paper

CycleISP: Real Image Restoration via Improved Data Synthesis
Syed Waqas Zamir, Aditya Arora, Salman Khan, Munawar Hayat, Fahad Shahbaz Khan, ***Ming-Hsuan Yang****, Ling Shao*
14:00 & 2:00
Link to Paper

Dynamic Graph Message Passing Networks
Li Zhang, Dan Xu, ***Anurag Arnab****, Philip Torr*
16:10 and 04:10
Link to paper

Posters

Single-view view synthesis with multiplane images
Richard Tucker, Noah Snavely
10:00 & 22:00
Link to Paper

Adversarial Examples Improve Image Recognition
Cihang Xie, Mingxing Tan, Boqing Gong, Jiang Wang*, Alan Yuille,* ***Quoc V. Le***
10:00 & 22:00
Link to Paper

Adversarial Texture Optimization from RGB-D Scans
Jingwei Huang*, Justus Thies, Angela Dai,* ***Abhijit Kundu****,* ***Chiyu "Max" Jiang****, Leonidas Guibas, Matthias Niessner,* ***Thomas Funkhouser***
12:00 & 0:00
Link to Paper

Single-Image HDR Reconstruction by Learning to Reverse the Camera Pipeline
Yu-Lun Liu, ***Wei-Sheng Lai****, Yu-Sheng Chen, Yi-Lung Kao,* ***Ming-Hsuan Yang****,Yung-Yu Chuang, Jia-Bin Huang*
12:00 & 00:00
Link to Paper

Collaborative Distillation for Ultra-Resolution Universal Style Transfer
Huan Wang, Yijun Li, Yuehai Wang, Haoji Hu, ***Ming-Hsuan Yang***
12:00 & 00:00
Link to Paper

Learning to Autofocus
Charles Herrmann, Richard Strong Bowen, ***Neal Wadhwa****,* ***Rahul Garg, Qiurui He, Jonathan T. Barron, Ramin Zabih***
12:00 & 00:00
Link to Paper

Multi-Scale Boosted Dehazing Network with Dense Feature Fusion
Hang Dong, Jinshan Pan, Lei Xiang, Zhe Hu, Xinyi Zhang, Fei Wang, ***Ming-Hsuan Yang***
12:00 & 0:00
Link to Paper

Composing Good Shots by Exploiting Mutual Relations
Debang Li, Junge Zhang, Kaiqi Huang, ***Ming-Hsuan Yang***
16:00 & 4:00
Link to Paper

PatchVAE: Learning Local Latent Codes for Recognition
Kamal Gupta, ***Saurabh Singh****, Abhinav Shrivastava*
16:00 & 4:00
Link to Paper

Authors with Google affiliations are bolded

Wednesday, June 17

Orals

Local Deep Implicit Functions for 3D Shape
Kyle Genova, Forrester Cole, Avneesh Sud, Aaron Sarna, Thomas Funkhouser
10:00 & 22:00
Link to Paper

GHUM & GHUML: Generative 3D Human Shape and Articulated Pose Models
Hongyi Xu, Eduard Gabriel Bazavan, Andrei Zanfir, William Freeman, Rahul Sukthankar, Cristian Sminchisescu
12:35 & 00:35
Link to Paper

Search to Distill: Pearls are Everywhere but not the Eyes
Yu Liu, Xuhui Jia, Mingxing Tan, Raviteja Vemulapalli, Yukun Zhu, Bradley Green*, Xiaogang Wang*
14:05 & 2:05
Link to Paper

Semantic Pyramid for Image Generation
Assaf Shocher, Yossi Gandelsman, Inbar Mosseri, Michal Yarom, Michal Irani, William Freeman, Tali Dekel
14:10 & 2:10
Link to Paper

Flow Contrastive Estimation of Energy-Based Models
Ruiqi Gao, Erik Nijkamp, ***Diederik Kingma, Zhen Xu, Andrew Dai,*** *Ying Nian Wu*
14:40 & 02:40
Link to Paper

Rethinking Class-Balanced Methods for Long-Tailed Visual Recognition from A Domain Adaptation Perspective
Muhammad Abdullah Jamal, Matthew Brown, Ming-Hsuan Yang*, Liqiang Wang,* ***Boqing Gong***
14:40 & 02:40
Link to Paper

Category-Level Articulated Object Pose Estimation
Xiaolong Li, He Wang, ***Li Yi****, Leonidas Guibas, Amos Abbott, Shuran Song*
16:00 & 4:00
Link to Paper

AdaCoSeg: Adaptive Shape Co-Segmentation with Group Consistency Loss
Chenyang Zhu, Kai Xu, Siddhartha Chaudhuri, ***Li Yi****, Leonidas Guibas, Hao Zhang*
16:10 & 4:10
Link to Paper

Posters

Neural Voxel Renderer: Learning an Accurate and Controllable Rendering Tool
Konstantinos Rematas, Vittorio Ferrari
10:00 & 22:00
Link to Paper

Local Implicit Grid Representations for 3D Scenes
Chiyu "Max" Jiang, Avneesh Sud, Ameesh Makadia, Jingwei Huang, *Matthias Niessner,* ***Thomas Funkhouser***
10:00 & 22:00
Link to Paper

Large Scale Video Representation Learning via Relational Graph Clustering
Hyodong Lee, Joonseok Lee, Joe Yue-Hei Ng, Apostol (Paul) Natsev
12:00 & 00:00
Link to Paper

Deep Homography Estimation for Dynamic Scenes
Hoang Le, ***Feng Liu, Shu Zhang, Aseem Agarwala***
14:00 & 2:00
Link to Paper

C-Flow: Conditional Generative Flow Models for Images and 3D Point Clouds
Albert Pumarola, Stefan Popov, *Francesc Moreno-Noguer,* ***Vittorio Ferrari***
14:00 & 2:00
Link to Paper

Authors with Google affiliations are bolded

Lighthouse: Predicting Lighting Volumes for Spatially-Coherent Illumination
Pratul Srinivasan, Ben Mildenhall, Matthew Tancik, ***Jonathan T. Barron, Richard Tucker, Noah Snavely***
14:00 & 2:00
Link to Paper

Scale-space flow for end-to-end optimized video compression
Eirikur Agustsson, David Minnen, Nick Johnston, Johannes Ballé, Sung Jin Hwang, George Toderici
14:00 & 2:00
Link to Paper

StructEdit: Learning Structural Shape Variations
Kaichun Mo, Paul Guerrero, ***Li Yi****, Hao Su, Peter Wonka, Niloy Mitra, Leonidas Guibas*
16:00 & 4:00
Link to Paper

3D-MPA: Multi Proposal Aggregation for 3D Semantic Instance Segmentation
Francis Engelmann, Martin Bokeloh, Alireza Fathi*, Bastian Leibe, Matthias Niessner*
16:00 4:00
Link to Paper

Sequential mastery of multiple tasks: Networks naturally learn to learn and forget to forget
Guy Davidson, ***Michael C. Mozer***
16:00 & 4:00
Link to Paper

Distilling Effective Supervision from Severe Label Noise
Zizhao Zhang, Han Zhang, Sercan Ö. Arik, Honglak Lee, Tomas Pfister
16:00 & 4:00
Link to Paper

ViewAL: Active Learning With Viewpoint Entropy for Semantic Segmentation
Yawar Siddiqui, ***Julien Valentin****, Matthias Niessner*
16:00 &4:00
Link to Paper

Attribution in Scale and Space
Shawn Xu, Subhashini Venugopalan, Mukund Sundararajan
16:00 & 4:00
Link to Paper

Weakly-Supervised Semantic Segmentation via Sub-category Exploration
Yu-Ting Chang, Qiaosong Wang, ***Wei-Chih Hung****, Robinson Piramuthu, Yi-Hsuan Tsai,* ***Ming-Hsuan Yang***
16:00 & 4:00
Link to Paper

Thursday, June 18

Orals

SpeedNet: Learning the Speediness in Videos
Sagie Benaim, Ariel Ephrat, Oran Lang, Inbar Mosseri, William Freeman, Michael Rubinstein, Michal Irani, Tali Dekel
9:50 & 21:50
Link to Paper

BSP-Net: Generating Compact Meshes via Binary Space Partitioning
Zhiqin Chen, ***Andrea Tagliasacchi****, Hao Zhang*
10:20 & 22:20
Link to Paper

SAPIEN: A SimulAted Part-based Interactive ENvironment
Fanbo Xiang, Yuzhe Qin, Kaichun Mo, Yikuan Xia, Hao Zhu, Fangchen Liu, Minghua Liu, Hanxiao Jiang, Yifu Yuan, He Wang, ***Li Yi****, Angel Chang, Leonidas Guibas, Hao Su*
11:00 & 23:00
Link to Paper

SurfelGAN: Synthesizing Realistic Sensor Data for Autonomous Driving
Zhenpei Yang, Yuning Chai, Dragomir Anguelov, Yin Zhou, Pei Sun, ***Dumitru Erhan****, Sean Rafferty, Henrik Kretzschmar*
11:10 & 23:10
Link to Paper

Filter Response Normalization Layer: Eliminating Batch Dependence in the Training of Deep Neural Networks
Saurabh Singh, Shankar Krishnan
11:20 & 23:20
Link to Paper

Authors with Google affiliations are bolded

RL-CycleGAN: Reinforcement Learning Aware Simulation-To-Real
Kanishka Rao, Chris Harris, Alex Irpan, Sergey Levine, Julian Ibarz, *Mohi Khansari*
11:30 & 23:30
Link to Paper

Open Compound Domain Adaptation
Ziwei Liu, Zhongqi Miao, Xingang Pan, Xiaohang Zhan, Dahua Lin, Stella X.Yu, and ***Boqing Gong***
15:25 & 03:25
Link to Paper

Posters

Speech2Action: Cross-modal Supervision for Action Recognition
Arsha Nagrani, Chen Sun, David Ross, Rahul Sukthankar, Cordelia Schmid, *Andrew Zisserman*
9:00 & 21:00
Link to Paper

Counting Out Time: Class Agnostic Video Repetition Counting in the Wild
Debidatta Dwibedi*, Yusuf Aytar,* ***Jonathan Tompson, Pierre Sermanet,*** *Andrew Zisserman*
9:00 & 21:00
Link to Paper

The Garden of Forking Paths: Towards Multi-Future Trajectory Prediction
Junwei Liang, Lu Jiang, Kevin Murphy, Ting Yu, *Alexander Hauptmann*
9:00 & 21:00
Link to Paper

Self-training with Noisy Student improves ImageNet classification
Qizhe Xie, Minh-Thang Luong*, Eduard Hovy,* ***Quoc V. Le***
9:00 & 21:00
Link to Paper

EfficientDet: Scalable and Efficient Object Detection
Mingxing Tan, Ruoming Pang, Quoc Le
9:00 & 21:00
Link to Paper

ACNe: Attentive Context Normalization for Robust Permutation-Equivariant Learning
Weiwei Sun, Wei Jiang, ***Eduard Trulls, Andrea Tagliasacchi****, Kwang Moo Yi*
11:00 & 23:00
Link to Paper

VectorNet: Encoding HD Maps and Agent Dynamics from Vectorized Representation
Jiyang Gao, ***Chen Sun****, Hang Zhao, Yi Shen, Dragomir Anguelov,* ***Cordelia Schmid****, Congcong Li*
11:00 & 23:00
Link to Paper

SpineNet: Learning Scale-Permuted Backbone for Recognition and Localization
Xianzhi Du, Tsung-Yi Lin, Pengchong Jin, Golnaz Ghiasi, Mingxing Tan, Yin Cui, Quoc Le, Xiaodan Song
11:00 & 23:00
Link to Paper

KeyPose: Multi-View 3D Labeling and Keypoint Estimation for Transparent Objects
Xingyu Liu, Rico Jonschkowski, Anelia Angelova, Kurt Konolige
11:00 &23:00
Link to Paper

Structured Multi-Hashing for Model Compression
Elad Eban, Yair Movshovitz-Attias, Hao Wu, Mark Sandler, Andrew Poon, Yerlan Idelbayev, *Miguel A. Carreira-Perpinan*
11:00 & 23:00
Link to Paper

DOPS: Learning to Detect 3D Objects and Predict their 3D Shapes
Mahyar Najibi, ***Guangda Lai, Abhijit Kundu, Zhichao Lu, Vivek Rathod, Tom Funkhouser, Caroline Pantofaru, David Ross,*** *Larry Davis,* ***Alireza Fathi***
11:00 & 23:00
Link to Paper

Panoptic-DeepLab: A Simple, Strong, and Fast Baseline for Bottom-Up Panoptic Segmentation
Bowen Cheng, Maxwell Collins, Yukun Zhu, Ting Liu, *Thomas S. Huang,* ***Hartwig Adam, Liang-Chieh Chen***
15:00 & 3:00
Link to Paper

Authors with Google affiliations are bolded

Context R-CNN: Long Term Temporal Context for Per-Camera Object Detection
Sara Beery, Guanhang Wu, Vivek Rathod, Ronny Votel, Jonathan Huang
15:00 & 3:00
Link to Paper

Distortion Agnostic Deep Watermarking
Xiyang Luo, Ruohan Zhan, Huiwen Chang, Feng Yang, Peyman Milanfar
17:00 & 5:00
Link to Paper

Can weight sharing outperform random architecture search? An investigation with TuNAS
Gabriel Bender, Hanxiao Liu, Bo Chen, Grace Chu, *Shuyang Cheng****, Pieter-Jan Kindermans, Quoc Le***
17:00 & 5:00
Link to Paper

GIFnets: Differentiable GIF Encoding Framework
Innfarn Yoo, Xiyang Luo, Yilin Wang, Feng Yang, Peyman Milanfar
17:00 & 5:00
6

Your Local GAN: Designing Two Dimensional Local Attention Mechanisms for Generative Models
Giannis Daras, ***Augustus Odena, Han Zhang****, Alex Dimakis*
17:00 & 5:00
Link to Paper

Fast Sparse ConvNets
Erich Elsen, ***Marat Dukhan****,* ***Trevor Gale****, Karen Simonyan*
17:00 & 5:00
Link to Paper

RetinaTrack: Online Single Stage Joint Detection and Tracking
Zhichao Lu, Vivek Rathod, Ronny Votel, Jonathan Huang
17:00 & 5:00
Link to Paper

Learning to See Through Obstructions
Yu-Lun Liu, ***Wei-Sheng Lai, Ming-Hsuan Yang****, Yung-Yu Chuang, Jia-Bin Huang*
17:00 & 5:00
Link to Paper

Self-Supervised Learning of Video-Induced Visual Invariances
Michael Tschannen, Josip Djolonga, Marvin Ritter, Aravindh Mahendran, Neil Houlsby, Sylvain Gelly, Mario Lucic
17:00 & 5:00
Link to Paper

Friday, June 19

Workshops

Extreme classification in computer vision
Ramin Zabih, Zhen Li*, Manik Varma*
June 19; Morning
Workshop URL

Image Matching: Local Features and Beyond
Vassileios Balntas, Vincent Lepetit, Jiri Matas, Dmytro Mishkin, Johannes Schoenberger, ***Eduard Trulls****, Kwang Moo Yi*
June 19; Morning
Workshop URL

The DAVIS Challenge on Video Object Segmentation
Sergi Caelles, ***Alberto Montes****, Federico Perazzi,* ***Jordi Pont-Tuset, Kevis-Kokitsi Maninis****, Luc Van Gool*
June 19; Morning
Workshop URL

2nd Workshop on Precognition: Seeing through the Future
Khoa Luu, Kris Kitani, Minh Hoai Nguyen, Hien Van Nguyen, Nemanja Djuric, ***Utsav Prabhu***
June 19; Afternoon
Workshop URL

Computational Cameras and Displays (CCD)
Invited talk: "Computational Photography in Very Low Light" by ***Orly Liba***
June 19; 03:00 - 04:30
Workshop URL

2nd Workshop on Learning from Unlabeled Videos (LUV)
Yale Song, Carl Vondrick, Katerina Fragkiadaki, ***Honglak Lee****,* ***Rahul Sukthankar***
June 19: Full-Day
Workshop URL

Authors with Google affiliations are bolded

7th Workshop on Fine Grained Visual Categorization (FGVC7)
Oisin Mac Aodha, Ryan Farrell, Subhransu Maji, ***Christine Kaeser-Chen****, Grant Van Horn,* ***Serge Belongie***
June 19; Full-Day
Workshop URL

Language & Vision with applications to Video Understanding
Qi Wu, Xin Wang, Chenxi Liu, Licheng Yu, ***Lu Jiang****, Yan Huang, Ting Yao, Qin Jin, William Wang, Anton van den Hengel, Andrei Barbu, Siddharth N., Dan Gutfreund, Philip Torr*
June 19; Full-Day
Workshop URL

Neural Architecture Search and Beyond for Representation Learning
Rameswar Panda, Saining Xie, ***Barret Zoph****, AJ Piergiovanni, Bishwaranjan Bhattacharjee, Rogerio S. Feris, Tianfu Wu, Ying Wu, Sinisa Todorovic, Ying Nian Wu, Arnav Jhala, Caiming Xiong, David Xianfeng Gu, Song-Chun Zhu*
June 19; Full-Day
Workshop URL

Tutorials

Fairness Accountability Transparency and Ethics and Computer Vision
Timnit Gebru, Emily Denton
June 19; Afternoon (Half-day)
Tutorial URL

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