

Commenced Publication in 1973

Founding and Former Series Editors:

Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen

Editorial Board

David Hutchison

Lancaster University, Lancaster, UK

Takeo Kanade

Carnegie Mellon University, Pittsburgh, PA, USA

Josef Kittler

University of Surrey, Guildford, UK

Jon M. Kleinberg

Cornell University, Ithaca, NY, USA

Friedemann Mattern

ETH Zurich, Zurich, Switzerland

John C. Mitchell

Stanford University, Stanford, CA, USA

Moni Naor

Weizmann Institute of Science, Rehovot, Israel

C. Pandu Rangan

Indian Institute of Technology Madras, Chennai, India

Bernhard Steffen

TU Dortmund University, Dortmund, Germany

Demetri Terzopoulos

University of California, Los Angeles, CA, USA

Doug Tygar

University of California, Berkeley, CA, USA

Gerhard Weikum

Max Planck Institute for Informatics, Saarbrücken, Germany

More information about this series at <http://www.springer.com/series/7412>

Vittorio Ferrari · Martial Hebert
Cristian Sminchisescu · Yair Weiss (Eds.)

Computer Vision – ECCV 2018

15th European Conference
Munich, Germany, September 8–14, 2018
Proceedings, Part VIII

Editors

Vittorio Ferrari
Google Research
Zurich
Switzerland

Martial Hebert
Carnegie Mellon University
Pittsburgh, PA
USA

Cristian Sminchisescu
Google Research
Zurich
Switzerland

Yair Weiss
Hebrew University of Jerusalem
Jerusalem
Israel

ISSN 0302-9743 ISSN 1611-3349 (electronic)
Lecture Notes in Computer Science
ISBN 978-3-030-01236-6 ISBN 978-3-030-01237-3 (eBook)
<https://doi.org/10.1007/978-3-030-01237-3>

Library of Congress Control Number: 2018955489

LNCS Sublibrary: SL6 – Image Processing, Computer Vision, Pattern Recognition, and Graphics

© Springer Nature Switzerland AG 2018

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Foreword

It was our great pleasure to host the European Conference on Computer Vision 2018 in Munich, Germany. This constituted by far the largest ECCV event ever. With close to 2,900 registered participants and another 600 on the waiting list one month before the conference, participation more than doubled since the last ECCV in Amsterdam. We believe that this is due to a dramatic growth of the computer vision community combined with the popularity of Munich as a major European hub of culture, science, and industry. The conference took place in the heart of Munich in the concert hall Gasteig with workshops and tutorials held at the downtown campus of the Technical University of Munich.

One of the major innovations for ECCV 2018 was the free perpetual availability of all conference and workshop papers, which is often referred to as open access. We note that this is not precisely the same use of the term as in the Budapest declaration. Since 2013, CVPR and ICCV have had their papers hosted by the Computer Vision Foundation (CVF), in parallel with the IEEE Xplore version. This has proved highly beneficial to the computer vision community.

We are delighted to announce that for ECCV 2018 a very similar arrangement was put in place with the cooperation of Springer. In particular, the author's final version will be freely available in perpetuity on a CVF page, while SpringerLink will continue to host a version with further improvements, such as activating reference links and including video. We believe that this will give readers the best of both worlds; researchers who are focused on the technical content will have a freely available version in an easily accessible place, while subscribers to SpringerLink will continue to have the additional benefits that this provides. We thank Alfred Hofmann from Springer for helping to negotiate this agreement, which we expect will continue for future versions of ECCV.

September 2018

Horst Bischof
Daniel Cremers
Bernt Schiele
Ramin Zabih

Preface

Welcome to the proceedings of the 2018 European Conference on Computer Vision (ECCV 2018) held in Munich, Germany. We are delighted to present this volume reflecting a strong and exciting program, the result of an extensive review process. In total, we received 2,439 valid paper submissions. Of these, 776 were accepted (31.8%): 717 as posters (29.4%) and 59 as oral presentations (2.4%). All oral presentations were presented as posters as well. The program selection process was complicated this year by the large increase in the number of submitted papers, +65% over ECCV 2016, and the use of CMT3 for the first time for a computer vision conference. The program selection process was supported by four program co-chairs (PCs), 126 area chairs (ACs), and 1,199 reviewers with reviews assigned.

We were primarily responsible for the design and execution of the review process. Beyond administrative rejections, we were involved in acceptance decisions only in the very few cases where the ACs were not able to agree on a decision. As PCs, and as is customary in the field, we were not allowed to co-author a submission. General co-chairs and other co-organizers who played no role in the review process were permitted to submit papers, and were treated as any other author is.

Acceptance decisions were made by two independent ACs. The ACs also made a joint recommendation for promoting papers to oral status. We decided on the final selection of oral presentations based on the ACs' recommendations. There were 126 ACs, selected according to their technical expertise, experience, and geographical diversity (63 from European, nine from Asian/Australian, and 54 from North American institutions). Indeed, 126 ACs is a substantial increase in the number of ACs due to the natural increase in the number of papers and to our desire to maintain the number of papers assigned to each AC to a manageable number so as to ensure quality. The ACs were aided by the 1,199 reviewers to whom papers were assigned for reviewing. The Program Committee was selected from committees of previous ECCV, ICCV, and CVPR conferences and was extended on the basis of suggestions from the ACs. Having a large pool of Program Committee members for reviewing allowed us to match expertise while reducing reviewer loads. No more than eight papers were assigned to a reviewer, maintaining the reviewers' load at the same level as ECCV 2016 despite the increase in the number of submitted papers.

Conflicts of interest between ACs, Program Committee members, and papers were identified based on the home institutions, and on previous collaborations of all researchers involved. To find institutional conflicts, all authors, Program Committee members, and ACs were asked to list the Internet domains of their current institutions. We assigned on average approximately 18 papers to each AC. The papers were assigned using the affinity scores from the Toronto Paper Matching System (TPMS) and additional data from the OpenReview system, managed by a UMass group. OpenReview used additional information from ACs' and authors' records to identify collaborations and to generate matches. OpenReview was invaluable in

refining conflict definitions and in generating quality matches. The only glitch is that, once the matches were generated, a small percentage of papers were unassigned because of discrepancies between the OpenReview conflicts and the conflicts entered in CMT3. We manually assigned these papers. This glitch is revealing of the challenge of using multiple systems at once (CMT3 and OpenReview in this case), which needs to be addressed in future.

After assignment of papers to ACs, the ACs suggested seven reviewers per paper from the Program Committee pool. The selection and rank ordering were facilitated by the TPMS affinity scores visible to the ACs for each paper/reviewer pair. The final assignment of papers to reviewers was generated again through OpenReview in order to account for refined conflict definitions. This required new features in the OpenReview matching system to accommodate the ECCV workflow, in particular to incorporate selection ranking, and maximum reviewer load. Very few papers received fewer than three reviewers after matching and were handled through manual assignment. Reviewers were then asked to comment on the merit of each paper and to make an initial recommendation ranging from definitely reject to definitely accept, including a borderline rating. The reviewers were also asked to suggest explicit questions they wanted to see answered in the authors' rebuttal. The initial review period was five weeks. Because of the delay in getting all the reviews in, we had to delay the final release of the reviews by four days. However, because of the slack included at the tail end of the schedule, we were able to maintain the decision target date with sufficient time for all the phases. We reassigned over 100 reviews from 40 reviewers during the review period. Unfortunately, the main reason for these reassignments was reviewers declining to review, after having accepted to do so. Other reasons included technical relevance and occasional unidentified conflicts. We express our thanks to the emergency reviewers who generously accepted to perform these reviews under short notice. In addition, a substantial number of manual corrections had to do with reviewers using a different email address than the one that was used at the time of the reviewer invitation. This is revealing of a broader issue with identifying users by email addresses that change frequently enough to cause significant problems during the timespan of the conference process.

The authors were then given the opportunity to rebut the reviews, to identify factual errors, and to address the specific questions raised by the reviewers over a seven-day rebuttal period. The exact format of the rebuttal was the object of considerable debate among the organizers, as well as with prior organizers. At issue is to balance giving the author the opportunity to respond completely and precisely to the reviewers, e.g., by including graphs of experiments, while avoiding requests for completely new material or experimental results not included in the original paper. In the end, we decided on the two-page PDF document in conference format. Following this rebuttal period, reviewers and ACs discussed papers at length, after which reviewers finalized their evaluation and gave a final recommendation to the ACs. A significant percentage of the reviewers did enter their final recommendation if it did not differ from their initial recommendation. Given the tight schedule, we did not wait until all were entered.

After this discussion period, each paper was assigned to a second AC. The AC/paper matching was again run through OpenReview. Again, the OpenReview team worked quickly to implement the features specific to this process, in this case accounting for the

existing AC assignment, as well as minimizing the fragmentation across ACs, so that each AC had on average only 5.5 buddy ACs to communicate with. The largest number was 11. Given the complexity of the conflicts, this was a very efficient set of assignments from OpenReview. Each paper was then evaluated by its assigned pair of ACs. For each paper, we required each of the two ACs assigned to certify both the final recommendation and the metareview (aka consolidation report). In all cases, after extensive discussions, the two ACs arrived at a common acceptance decision. We maintained these decisions, with the caveat that we did evaluate, sometimes going back to the ACs, a few papers for which the final acceptance decision substantially deviated from the consensus from the reviewers, amending three decisions in the process.

We want to thank everyone involved in making ECCV 2018 possible. The success of ECCV 2018 depended on the quality of papers submitted by the authors, and on the very hard work of the ACs and the Program Committee members. We are particularly grateful to the OpenReview team (Melisa Bok, Ari Kobren, Andrew McCallum, Michael Spector) for their support, in particular their willingness to implement new features, often on a tight schedule, to Laurent Charlin for the use of the Toronto Paper Matching System, to the CMT3 team, in particular in dealing with all the issues that arise when using a new system, to Friedrich Fraundorfer and Quirin Lohr for maintaining the online version of the program, and to the CMU staff (Keyla Cook, Lynnetta Miller, Ashley Song, Nora Kazour) for assisting with data entry/editing in CMT3. Finally, the preparation of these proceedings would not have been possible without the diligent effort of the publication chairs, Albert Ali Salah and Hamdi Dibeklioğlu, and of Anna Kramer and Alfred Hofmann from Springer.

September 2018

Vittorio Ferrari
 Martial Hebert
 Cristian Sminchisescu
 Yair Weiss

Organization

General Chairs

Horst Bischof	Graz University of Technology, Austria
Daniel Cremers	Technical University of Munich, Germany
Bernt Schiele	Saarland University, Max Planck Institute for Informatics, Germany
Ramin Zabih	CornellNYCTech, USA

Program Committee Co-chairs

Vittorio Ferrari	University of Edinburgh, UK
Martial Hebert	Carnegie Mellon University, USA
Cristian Sminchisescu	Lund University, Sweden
Yair Weiss	Hebrew University, Israel

Local Arrangements Chairs

Björn Menze	Technical University of Munich, Germany
Matthias Niessner	Technical University of Munich, Germany

Workshop Chairs

Stefan Roth	TU Darmstadt, Germany
Laura Leal-Taixé	Technical University of Munich, Germany

Tutorial Chairs

Michael Bronstein	Università della Svizzera Italiana, Switzerland
Laura Leal-Taixé	Technical University of Munich, Germany

Website Chair

Friedrich Fraundorfer	Graz University of Technology, Austria
-----------------------	--

Demo Chairs

Federico Tombari	Technical University of Munich, Germany
Joerg Stueckler	Technical University of Munich, Germany

Publicity Chair

Giovanni Maria Farinella	University of Catania, Italy
-----------------------------	------------------------------

Industrial Liaison Chairs

Florent Perronnin	Naver Labs, France
Yunchao Gong	Snap, USA
Helmuth Grabner	Logitech, Switzerland

Finance Chair

Gerard Medioni	Amazon, University of Southern California, USA
----------------	--

Publication Chairs

Albert Ali Salah	Boğaziçi University, Turkey
Hamdi Dibeklioglu	Bilkent University, Turkey

Area Chairs

Kalle Åström	Lund University, Sweden
Zeynep Akata	University of Amsterdam, The Netherlands
Joao Barreto	University of Coimbra, Portugal
Ronen Basri	Weizmann Institute of Science, Israel
Dhruv Batra	Georgia Tech and Facebook AI Research, USA
Serge Belongie	Cornell University, USA
Rodrigo Benenson	Google, Switzerland
Hakan Bilen	University of Edinburgh, UK
Matthew Blaschko	KU Leuven, Belgium
Edmond Boyer	Inria, France
Gabriel Brostow	University College London, UK
Thomas Brox	University of Freiburg, Germany
Marcus Brubaker	York University, Canada
Barbara Caputo	Politecnico di Torino and the Italian Institute of Technology, Italy
Tim Cootes	University of Manchester, UK
Trevor Darrell	University of California, Berkeley, USA
Larry Davis	University of Maryland at College Park, USA
Andrew Davison	Imperial College London, UK
Fernando de la Torre	Carnegie Mellon University, USA
Irfan Essa	GeorgiaTech, USA
Ali Farhadi	University of Washington, USA
Paolo Favaro	University of Bern, Switzerland
Michael Felsberg	Linköping University, Sweden

Sanja Fidler	University of Toronto, Canada
Andrew Fitzgibbon	Microsoft, Cambridge, UK
David Forsyth	University of Illinois at Urbana-Champaign, USA
Charless Fowlkes	University of California, Irvine, USA
Bill Freeman	MIT, USA
Mario Fritz	MPII, Germany
Jürgen Gall	University of Bonn, Germany
Dariu Gavrilă	TU Delft, The Netherlands
Andreas Geiger	MPI-IS and University of Tübingen, Germany
Theo Gevers	University of Amsterdam, The Netherlands
Ross Girshick	Facebook AI Research, USA
Kristen Grauman	Facebook AI Research and UT Austin, USA
Abhinav Gupta	Carnegie Mellon University, USA
Kaiming He	Facebook AI Research, USA
Martial Hebert	Carnegie Mellon University, USA
Anders Heyden	Lund University, Sweden
Timothy Hospedales	University of Edinburgh, UK
Michal Irani	Weizmann Institute of Science, Israel
Phillip Isola	University of California, Berkeley, USA
Hervé Jégou	Facebook AI Research, France
David Jacobs	University of Maryland, College Park, USA
Allan Jepson	University of Toronto, Canada
Jiayia Jia	Chinese University of Hong Kong, SAR China
Fredrik Kahl	Chalmers University, USA
Hedvig Kjellström	KTH Royal Institute of Technology, Sweden
Iasonas Kokkinos	University College London and Facebook, UK
Vladlen Koltun	Intel Labs, USA
Philipp Krähenbühl	UT Austin, USA
M. Pawan Kumar	University of Oxford, UK
Kyros Kutulakos	University of Toronto, Canada
In Kweon	KAIST, South Korea
Ivan Laptev	Inria, France
Svetlana Lazebnik	University of Illinois at Urbana-Champaign, USA
Laura Leal-Taixé	Technical University of Munich, Germany
Erik Learned-Miller	University of Massachusetts, Amherst, USA
Kyoung Mu Lee	Seoul National University, South Korea
Bastian Leibe	RWTH Aachen University, Germany
Aleš Leonardis	University of Birmingham, UK
Vincent Lepetit	University of Bordeaux, France and Graz University of Technology, Austria
Fuxin Li	Oregon State University, USA
Dahua Lin	Chinese University of Hong Kong, SAR China
Jim Little	University of British Columbia, Canada
Ce Liu	Google, USA
Chen Change Loy	Nanyang Technological University, Singapore
Jiri Matas	Czech Technical University in Prague, Czechia

Yasuyuki Matsushita	Osaka University, Japan
Dimitris Metaxas	Rutgers University, USA
Greg Mori	Simon Fraser University, Canada
Vittorio Murino	Istituto Italiano di Tecnologia, Italy
Richard Newcombe	Oculus Research, USA
Minh Hoai Nguyen	Stony Brook University, USA
Sebastian Nowozin	Microsoft Research Cambridge, UK
Aude Oliva	MIT, USA
Bjorn Ommer	Heidelberg University, Germany
Tomas Pajdla	Czech Technical University in Prague, Czechia
Maja Pantic	Imperial College London and Samsung AI Research Centre Cambridge, UK
Caroline Pantofaru	Google, USA
Devi Parikh	Georgia Tech and Facebook AI Research, USA
Sylvain Paris	Adobe Research, USA
Vladimir Pavlovic	Rutgers University, USA
Marcello Pelillo	University of Venice, Italy
Patrick Pérez	Valeo, France
Robert Pless	George Washington University, USA
Thomas Pock	Graz University of Technology, Austria
Jean Ponce	Inria, France
Gerard Pons-Moll	MPII, Saarland Informatics Campus, Germany
Long Quan	Hong Kong University of Science and Technology, SAR China
Stefan Roth	TU Darmstadt, Germany
Carsten Rother	University of Heidelberg, Germany
Bryan Russell	Adobe Research, USA
Kate Saenko	Boston University, USA
Mathieu Salzmann	EPFL, Switzerland
Dimitris Samaras	Stony Brook University, USA
Yoichi Sato	University of Tokyo, Japan
Silvio Savarese	Stanford University, USA
Konrad Schindler	ETH Zurich, Switzerland
Cordelia Schmid	Inria, France and Google, France
Nicu Sebe	University of Trento, Italy
Fei Sha	University of Southern California, USA
Greg Shakhnarovich	TTI Chicago, USA
Jianbo Shi	University of Pennsylvania, USA
Abhinav Shrivastava	UMD and Google, USA
Yan Shuicheng	National University of Singapore, Singapore
Leonid Sigal	University of British Columbia, Canada
Josef Sivic	Czech Technical University in Prague, Czechia
Arnold Smeulders	University of Amsterdam, The Netherlands
Deqing Sun	NVIDIA, USA
Antonio Torralba	MIT, USA
Zhuowen Tu	University of California, San Diego, USA

Tinne Tuytelaars	KU Leuven, Belgium
Jasper Uijlings	Google, Switzerland
Joost van de Weijer	Computer Vision Center, Spain
Nuno Vasconcelos	University of California, San Diego, USA
Andrea Vedaldi	University of Oxford, UK
Olga Veksler	University of Western Ontario, Canada
Jakob Verbeek	Inria, France
Rene Vidal	Johns Hopkins University, USA
Daphna Weinshall	Hebrew University, Israel
Chris Williams	University of Edinburgh, UK
Lior Wolf	Tel Aviv University, Israel
Ming-Hsuan Yang	University of California at Merced, USA
Todd Zickler	Harvard University, USA
Andrew Zisserman	University of Oxford, UK

Technical Program Committee

Hassan Abu Alhaija	Peter Anderson	Arunava Banerjee
Radhakrishna Achanta	Juan Andrade-Cetto	Atsuhiko Banno
Hanno Ackermann	Mykhaylo Andriluka	Aayush Bansal
Ehsan Adeli	Anelia Angelova	Yingze Bao
Lourdes Agapito	Michel Antunes	Md Jawadul Bappy
Aishwarya Agrawal	Pablo Arbelaez	Pierre Baqué
Antonio Agudo	Vasileios Argyriou	Dániel Baráth
Eirikur Agustsson	Chetan Arora	Adrian Barbu
Karim Ahmed	Federica Arrigoni	Kobus Barnard
Byeongjoo Ahn	Vassilis Athitsos	Nick Barnes
Unaiza Ahsan	Mathieu Aubry	Francisco Barranco
Emre Akbaş	Shai Avidan	Adrien Bartoli
Eren Aksoy	Yannis Avrithis	E. Bayro-Corrochano
Yağız Aksoy	Samaneh Azadi	Paul Beardlsey
Alexandre Alahi	Hossein Azizpour	Vasileios Belagiannis
Jean-Baptiste Alayrac	Artem Babenko	Sean Bell
Samuel Albanie	Timur Bagautdinov	Ismail Ben
Cenek Albl	Andrew Bagdanov	Boulbaba Ben Amor
Saad Ali	Hessam Bagherinezhad	Gil Ben-Artzi
Rahaf Aljundi	Yuval Bahat	Ohad Ben-Shahar
Jose M. Alvarez	Min Bai	Abhijit Bendale
Humam Alwassel	Qinxun Bai	Rodrigo Benenson
Toshiyuki Amano	Song Bai	Fabian Benitez-Quiroz
Mitsuru Ambai	Xiang Bai	Fethallah Benmansour
Mohamed Amer	Peter Bajcsy	Ryad Benosman
Senjian An	Amr Bakry	Filippo Bergamasco
Cosmin Ancuti	Kavita Bala	David Bermudez

Jesus Bermudez-Cameo	Xun Cao	Erkang Cheng
Leonard Berrada	Yanshuai Cao	Jingchun Cheng
Gedas Bertasius	Joao Carreira	Ming-Ming Cheng
Ross Beveridge	Dan Casas	Wen-Huang Cheng
Lucas Beyer	Daniel Castro	Yuan Cheng
Bir Bhanu	Jan Cech	Anoop Cherian
S. Bhattacharya	M. Emre Celebi	Liang-Tien Chia
Binod Bhattarai	Duygu Ceylan	Naoki Chiba
Arnav Bhavsar	Menglei Chai	Shao-Yi Chien
Simone Bianco	Ayan Chakrabarti	Han-Pang Chiu
Adel Bibi	Rudrasis Chakraborty	Wei-Chen Chiu
Pia Bideau	Shayok Chakraborty	Nam Ik Cho
Josef Bigun	Tat-Jen Cham	Sunghyun Cho
Arijit Biswas	Antonin Chambolle	TaeEun Choe
Soma Biswas	Antoni Chan	Jongmoo Choi
Marten Bjoerkman	Sharat Chandran	Christopher Choy
Volker Blanz	Hyun Sung Chang	Wen-Sheng Chu
Vishnu Boddeti	Ju Yong Chang	Yung-Yu Chuang
Piotr Bojanowski	Xiaojun Chang	Ondrej Chum
Terrance Boulton	Soravit Changpinyo	Joon Son Chung
Yuri Boykov	Wei-Lun Chao	Gökberk Cinbis
Hakan Boyraz	Yu-Wei Chao	James Clark
Eric Brachmann	Visesh Chari	Andrea Cohen
Samarth Brahmabhatt	Rizwan Chaudhry	Forrester Cole
Mathieu Bredif	Siddhartha Chaudhuri	Toby Collins
Francois Bremond	Rama Chellappa	John Collomosse
Michael Brown	Chao Chen	Camille Couprie
Luc Brun	Chen Chen	David Crandall
Shyamal Buch	Cheng Chen	Marco Cristani
Pradeep Buddharaju	Chu-Song Chen	Canton Cristian
Aurelie Bugeau	Guang Chen	James Crowley
Rudy Bunel	Hsin-I Chen	Yin Cui
Xavier Burgos Artiz	Hwann-Tzong Chen	Zhaopeng Cui
Darius Burschka	Kai Chen	Bo Dai
Andrei Bursuc	Kan Chen	Jifeng Dai
Zoya Bylinskii	Kevin Chen	Qieyun Dai
Fabian Caba	Liang-Chieh Chen	Shengyang Dai
Daniel Cabrini Hauagge	Lin Chen	Yuchao Dai
Cesar Cadena Lerma	Qifeng Chen	Carlo Dal Mutto
Holger Caesar	Ting Chen	Dima Damen
Jianfei Cai	Wei Chen	Zachary Daniels
Junjie Cai	Xi Chen	Kostas Daniilidis
Zhaowei Cai	Xilin Chen	Donald Dansereau
Simone Calderara	Xinlei Chen	Mohamed Daoudi
Neill Campbell	Yingcong Chen	Abhishek Das
Octavia Camps	Yixin Chen	Samyak Datta

Achal Dave	Aykut Erdem	Ryo Furukawa
Shalini De Mello	Erkut Erdem	Yasutaka Furukawa
Teofilo deCampos	Hugo Jair Escalante	Andrea Fusiello
Joseph DeGol	Sergio Escalera	Fatma Güney
Koichiro Deguchi	Victor Escorcía	Raghudeep Gadde
Alessio Del Bue	Francisco Estrada	Silvano Galliani
Stefanie Demirci	Davide Eynard	Orazio Gallo
Jia Deng	Bin Fan	Chuang Gan
Zhiwei Deng	Jialue Fan	Bin-Bin Gao
Joachim Denzler	Quanfu Fan	Jin Gao
Konstantinos Derpanis	Chen Fang	Junbin Gao
Aditya Deshpande	Tian Fang	Ruohan Gao
Alban Desmaison	Yi Fang	Shenghua Gao
Frédéric Devernay	Hany Farid	Animesh Garg
Abhinav Dhall	Giovanni Farinella	Ravi Garg
Michel Dhome	Ryan Farrell	Erik Gartner
Hamdi Dibeklioglu	Alireza Fathi	Simone Gasparin
Mert Dikmen	Christoph Feichtenhofer	Jochen Gast
Cosimo Distanto	Wenxin Feng	Leon A. Gatys
Ajay Divakaran	Martin Fergie	Stratis Gavves
Mandar Dixit	Cornelia Fermüller	Liu Hao Ge
Carl Doersch	Basura Fernando	Timnit Gebru
Piotr Dollar	Michael Firman	James Gee
Bo Dong	Bob Fisher	Peter Gehler
Chao Dong	John Fisher	Xin Geng
Huang Dong	Mathew Fisher	Guido Gerig
Jian Dong	Boris Flach	David Geronimo
Jiangxin Dong	Matt Flagg	Bernard Ghanem
Weisheng Dong	François Fleuret	Michael Gharbi
Simon Donné	David Fofi	Golnaz Ghiasi
Gianfranco Doretto	Ruth Fong	Spyros Gidaris
Alexey Dosovitskiy	Gian Luca Foresti	Andrew Gilbert
Matthijs Douze	Per-Erik Forssén	Rohit Girdhar
Bruce Draper	David Fouhey	Ioannis Gkioulekas
Bertram Drost	Katerina Fragkiadaki	Georgia Gkioxari
Liang Du	Victor Fragoso	Guy Godin
Shichuan Du	Jan-Michael Frahm	Roland Goecke
Gregory Dudek	Jean-Sebastien Franco	Michael Goesele
Zoran Duric	Ohad Fried	Nuno Goncalves
Pinar Duygulu	Simone Frntrop	Boqing Gong
Hazım Ekenel	Huazhu Fu	Minglun Gong
Tarek El-Gaaly	Yun Fu	Yunchao Gong
Ehsan Elhamifar	Olac Fuentes	Abel Gonzalez-Garcia
Mohamed Elhoseiny	Christopher Funk	Daniel Gordon
Sabu Emmanuel	Thomas Funkhouser	Paulo Gotardo
Ian Endres	Brian Funt	Stephen Gould

Venu Govindu	Wolfgang Heidrich	Evren Imre
Helmut Grabner	Janne Heikkila	Eldar Insafutdinov
Petr Gronat	Jared Heinly	Go Irie
Steve Gu	Mattias Heinrich	Hossam Isack
Josechu Guerrero	Lisa Anne Hendricks	Ahmet Iscen
Anupam Guha	Dan Hendrycks	Daisuke Iwai
Jean-Yves Guillemaut	Stephane Herbin	Hamid Izadinia
Alp Güler	Alexander Hermans	Nathan Jacobs
Erhan Gündoğdu	Luis Herranz	Suyog Jain
Guodong Guo	Aaron Hertzmann	Varun Jampani
Xinqing Guo	Adrian Hilton	C. V. Jawahar
Ankush Gupta	Michael Hirsch	Dinesh Jayaraman
Mohit Gupta	Steven Hoi	Sadeep Jayasumana
Saurabh Gupta	Seunghoon Hong	Laszlo Jeni
Tanmay Gupta	Wei Hong	Hueihan Jhuang
Abner Guzman Rivera	Anthony Hoogs	Dinghuang Ji
Timo Hackel	Radu Horaud	Hui Ji
Sunil Hadap	Yedid Hoshen	Qiang Ji
Christian Haene	Omid Hosseini Jafari	Fan Jia
Ralf Haeusler	Kuang-Jui Hsu	Kui Jia
Levente Hajder	Winston Hsu	Xu Jia
David Hall	Yinlin Hu	Huaizu Jiang
Peter Hall	Zhe Hu	Jiayan Jiang
Stefan Haller	Gang Hua	Nianjuan Jiang
Ghassan Hamarneh	Chen Huang	Tingting Jiang
Fred Hamprecht	De-An Huang	Xiaoyi Jiang
Onur Hamsici	Dong Huang	Yu-Gang Jiang
Bohyung Han	Gary Huang	Long Jin
Junwei Han	Heng Huang	Suo Jinli
Xufeng Han	Jia-Bin Huang	Justin Johnson
Yahong Han	Qixing Huang	Nebojsa Jojic
Ankur Handa	Rui Huang	Michael Jones
Albert Haque	Sheng Huang	Hanbyul Joo
Tatsuya Harada	Weilin Huang	Jungseock Joo
Mehrtash Harandi	Xiaolei Huang	Ajjen Joshi
Bharath Hariharan	Xinyu Huang	Amin Jourabloo
Mahmudul Hasan	Zhiwu Huang	Frederic Jurie
Tal Hassner	Tak-Wai Hui	Achuta Kadambi
Kenji Hata	Wei-Chih Hung	Samuel Kadoury
Soren Hauberg	Junhwa Hur	Ioannis Kakadiaris
Michal Havlena	Mohamed Hussein	Zdenek Kalal
Zeeshan Hayder	Wonjun Hwang	Yannis Kalantidis
Junfeng He	Anders Hyden	Sinan Kalkan
Lei He	Satoshi Ikehata	Vicky Kalogeiton
Varsha Hedau	Nazlı İkizler-Cinbis	Sunkavalli Kalyan
Felix Heide	Viorela Ila	J.-K. Kamarainen

Martin Kampel	Dimitrios Kosmopoulos	Victor Lempitsky
Kenichi Kanatani	Satwik Kottur	Spyridon Leonardos
Angjoo Kanazawa	Balazs Kovacs	Marius Leordeanu
Melih Kandemir	Adarsh Kowdle	Matt Leotta
Sing Bing Kang	Mike Krainin	Thomas Leung
Zhuoliang Kang	Gregory Kramida	Stefan Leutenegger
Mohan Kankanhalli	Ranjay Krishna	Gil Levi
Juho Kannala	Ravi Krishnan	Aviad Levis
Abhishek Kar	Matej Kristan	Jose Lezama
Amlan Kar	Pavel Krsek	Ang Li
Svebor Karaman	Volker Krueger	Dingzeyu Li
Leonid Karlinsky	Alexander Krull	Dong Li
Zoltan Kato	Hilde Kuehne	Haoxiang Li
Parneet Kaur	Andreas Kuhn	Hongdong Li
Hiroshi Kawasaki	Arjan Kuijper	Hongsheng Li
Misha Kazhdan	Zuzana Kukelova	Hongyang Li
Margret Keuper	Kuldeep Kulkarni	Jianguo Li
Sameh Khamis	Shiro Kumano	Kai Li
Naeemullah Khan	Avinash Kumar	Ruiyu Li
Salman Khan	Vijay Kumar	Wei Li
Hadi Kiapour	Abhijit Kundu	Wen Li
Joe Kileel	Sebastian Kurtek	Xi Li
Chanho Kim	Junseok Kwon	Xiaoxiao Li
Gunhee Kim	Jan Kybic	Xin Li
Hansung Kim	Alexander Ladikos	Xirong Li
Junmo Kim	Shang-Hong Lai	Xuelong Li
Junsik Kim	Wei-Sheng Lai	Xueting Li
Kihwan Kim	Jean-Francois Lalonde	Yeqing Li
Minyoung Kim	John Lambert	Yijun Li
Tae Hyun Kim	Zhenzhong Lan	Yin Li
Tae-Kyun Kim	Charis Lanaras	Yingwei Li
Akisato Kimura	Oswald Lanz	Yining Li
Zsolt Kira	Dong Lao	Yongjie Li
Alexander Kirillov	Longin Jan Latecki	Yu-Feng Li
Kris Kitani	Justin Lazarow	Zechao Li
Maria Klodt	Huu Le	Zhengqi Li
Patrick Knöbelreiter	Chen-Yu Lee	Zhenyang Li
Jan Knopp	Gim Hee Lee	Zhizhong Li
Reinhard Koch	Honglak Lee	Xiaodan Liang
Alexander Kolesnikov	Hsin-Ying Lee	Renjie Liao
Chen Kong	Joon-Young Lee	Zicheng Liao
Naejin Kong	Seungyong Lee	Bee Lim
Shu Kong	Stefan Lee	Jongwoo Lim
Piotr Koniusz	Yong Jae Lee	Joseph Lim
Simon Korman	Zhen Lei	Ser-Nam Lim
Andreas Koschan	Ido Leichter	Chen-Hsuan Lin

Shih-Yao Lin	Simon Lucey	Christopher Mei
Tsung-Yi Lin	Jian-Hao Luo	Heydi Mendez-Vazquez
Weiyao Lin	Jiebo Luo	Deyu Meng
Yen-Yu Lin	Pablo Márquez-Neila	Thomas Mensink
Haibin Ling	Matthias Müller	Bjoern Menze
Or Litany	Chao Ma	Domingo Mery
Roe Litman	Chih-Yao Ma	Qiguang Miao
Anan Liu	Lin Ma	Tomer Michaeli
Changsong Liu	Shugao Ma	Antoine Miech
Chen Liu	Wei-Chiu Ma	Ondrej Miksik
Ding Liu	Zhanyu Ma	Anton Milan
Dong Liu	Oisin Mac Aodha	Gregor Miller
Feng Liu	Will Maddern	Cai Minjie
Guangcan Liu	Ludovic Magerand	Majid Mirmehdi
Luoqi Liu	Marcus Magnor	Ishan Misra
Miaomiao Liu	Vijay Mahadevan	Niloy Mitra
Nian Liu	Mohammad Mahoor	Anurag Mittal
Risheng Liu	Michael Maire	Nirbhay Modhe
Shu Liu	Subhransu Maji	Davide Modolo
Shuaicheng Liu	Ameesh Makadia	Pritish Mohapatra
Sifei Liu	Atsuto Maki	Pascal Monasse
Tyng-Luh Liu	Yasushi Makihara	Mathew Monfort
Wanquan Liu	Mateusz Malinowski	Taesup Moon
Weiwei Liu	Tomasz Malisiewicz	Sandino Morales
Xialei Liu	Arun Mallya	Vlad Morariu
Xiaoming Liu	Roberto Manduchi	Philippos Mordohai
Yebin Liu	Junhua Mao	Francesc Moreno
Yiming Liu	Dmitrii Marin	Henrique Morimitsu
Ziwei Liu	Joe Marino	Yael Moses
Zongyi Liu	Kenneth Marino	Ben-Ezra Moshe
Liliana Lo Presti	Elisabeta Marinoiu	Roozbeh Mottaghi
Edgar Lobaton	Ricardo Martin	Yadong Mu
Chengjiang Long	Aleix Martinez	Lopamudra Mukherjee
Mingsheng Long	Julieta Martinez	Mario Munich
Roberto Lopez-Sastre	Aaron Maschinot	Ana Murillo
Amy Loufti	Jonathan Masci	Damien Muselet
Brian Lovell	Bogdan Matei	Armin Mustafa
Canyi Lu	Diana Mateus	Siva Karthik Mustikovela
Cewu Lu	Stefan Mathe	Moin Nabi
Feng Lu	Kevin Matzen	Sobhan Naderi
Huchuan Lu	Bruce Maxwell	Hajime Nagahara
Jiajun Lu	Steve Maybank	Varun Nagaraja
Jiasen Lu	Walterio Mayol-Cuevas	Tushar Nagarajan
Jiwen Lu	Mason McGill	Arsha Nagrani
Yang Lu	Stephen Mckenna	Nikhil Naik
Yujuan Lu	Roey Mechrez	Atsushi Nakazawa

P. J. Narayanan
 Charlie Nash
 Lakshmanan Nataraj
 Fabian Nater
 Lukáš Neumann
 Natalia Neverova
 Alejandro Newell
 Phuc Nguyen
 Xiaohan Nie
 David Nilsson
 Ko Nishino
 Zhenxing Niu
 Shohei Nobuhara
 Klas Nordberg
 Mohammed Norouzi
 David Novotny
 Ifeoma Nwogu
 Matthew O'Toole
 Guillaume Obozinski
 Jean-Marc Odobez
 Eyal Ofek
 Ferda Ofli
 Tae-Hyun Oh
 Iason Oikonomidis
 Takeshi Oishi
 Takahiro Okabe
 Takayuki Okatani
 Vlad Olaru
 Michael Opitz
 Jose Oramas
 Vicente Ordonez
 Ivan Oseledets
 Aljosa Osep
 Magnus Oskarsson
 Martin R. Oswald
 Wanli Ouyang
 Andrew Owens
 Mustafa Özuysal
 Jinshan Pan
 Xingang Pan
 Rameswar Panda
 Sharath Pankanti
 Julien Pansiot
 Nicolas Papadakis
 George Papandreou
 N. Papanikolopoulos

Hyun Soo Park
 In Kyu Park
 Jaesik Park
 Omkar Parkhi
 Alvaro Parra Bustos
 C. Alejandro Parraga
 Vishal Patel
 Deepak Pathak
 Ioannis Patras
 Viorica Patraucean
 Genevieve Patterson
 Kim Pedersen
 Robert Peharz
 Selen Pehlivan
 Xi Peng
 Bojan Pepik
 Talita Perciano
 Federico Pernici
 Adrian Peter
 Stavros Petridis
 Vladimir Petrovic
 Henning Petzka
 Tomas Pfister
 Trung Pham
 Justus Piater
 Massimo Piccardi
 Sudeep Pillai
 Pedro Pinheiro
 Lerrel Pinto
 Bernardo Pires
 Aleksis Pirinen
 Fiora Pirri
 Leonid Pischulin
 Tobias Ploetz
 Bryan Plummer
 Yair Poleg
 Jean Ponce
 Gerard Pons-Moll
 Jordi Pont-Tuset
 Alin Popa
 Fatih Porikli
 Horst Possegger
 Viraj Prabhu
 Andrea Prati
 Maria Priisalu
 Véronique Prinet

Victor Prisacariu
 Jan Prokaj
 Nicolas Pugeault
 Luis Puig
 Ali Punjani
 Senthil Purushwalkam
 Guido Pusiol
 Guo-Jun Qi
 Xiaojuan Qi
 Hongwei Qin
 Shi Qiu
 Faisal Qureshi
 Matthias Rüther
 Petia Radeva
 Umer Rafi
 Rahul Raguram
 Swaminathan Rahul
 Varun Ramakrishna
 Kandan Ramakrishnan
 Ravi Ramamoorthi
 Vignesh Ramanathan
 Vasili Ramanishka
 R. Ramasamy Selvaraju
 Rene Ranftl
 Carolina Raposo
 Nikhil Rasiwasia
 Nalini Ratha
 Sai Ravela
 Avinash Ravichandran
 Ramin Raziperchikolaei
 Sylvestre-Alvise Rebuffi
 Adria Recasens
 Joe Redmon
 Timo Rehfeld
 Michal Reinstein
 Konstantinos Rematas
 Haibing Ren
 Shaoqing Ren
 Wenqi Ren
 Zhile Ren
 Hamid Rezatofighi
 Nicholas Rhinehart
 Helge Rhodin
 Elisa Ricci
 Eitan Richardson
 Stephan Richter

Gernot Riegler	Torsten Sattler	Tianmin Shu
Hayko Riemenschneider	Bogdan Savchynskyy	Zhixin Shu
Tammy Riklin Raviv	Johannes Schönberger	Kaleem Siddiqi
Ergys Ristani	Hanno Scharr	Gunnar Sigurdsson
Tobias Ritschel	Walter Scheirer	Nathan Silberman
Mariano Rivera	Bernt Schiele	Tomas Simon
Samuel Rivera	Frank Schmidt	Abhishek Singh
Antonio Robles-Kelly	Tanner Schmidt	Gautam Singh
Ignacio Rocco	Dirk Schnieders	Maneesh Singh
Jason Rock	Samuel Schulter	Praveer Singh
Emanuele Rodola	William Schwartz	Richa Singh
Mikel Rodriguez	Alexander Schwing	Saurabh Singh
Gregory Rogez	Ozan Sener	Sudipta Sinha
Marcus Rohrbach	Soumyadip Sengupta	Vladimir Smutny
Gemma Roig	Laura Sevilla-Lara	Noah Snively
Javier Romero	Mubarak Shah	Cees Snoek
Olaf Ronneberger	Shishir Shah	Kihyuk Sohn
Amir Rosenfeld	Fahad Shahbaz Khan	Eric Sommerlade
Bodo Rosenhahn	Amir Shahroudy	Sanghyun Son
Guy Rosman	Jing Shao	Bi Song
Arun Ross	Xiaowei Shao	Shiyu Song
Samuel Rota Bulò	Roman Shapovalov	Shuran Song
Peter Roth	Nataliya Shapovalova	Xuan Song
Constantin Rothkopf	Ali Sharif Razavian	Yale Song
Sebastien Roy	Gaurav Sharma	Yang Song
Amit Roy-Chowdhury	Mohit Sharma	Yibing Song
Ognjen Rudovic	Pramod Sharma	Lorenzo Sorgi
Adria Ruiz	Viktoriia Sharmanska	Humberto Sossa
Javier Ruiz-del-Solar	Eli Shechtman	Pratul Srinivasan
Christian Rupprecht	Mark Sheinin	Michael Stark
Olga Russakovsky	Evan Shelhamer	Bjorn Stenger
Chris Russell	Chunhua Shen	Rainer Stiefelhagen
Alexandre Sablayrolles	Li Shen	Joerg Stueckler
Fereshteh Sadeghi	Wei Shen	Jan Stuehmer
Ryusuke Sagawa	Xiaohui Shen	Hang Su
Hideo Saito	Xiaoyong Shen	Hao Su
Elham Sakhaee	Ziyi Shen	Shuochen Su
Albert Ali Salah	Lu Sheng	R. Subramanian
Conrad Sanderson	Baoguang Shi	Yusuke Sugano
Koppal Sanjeev	Boxin Shi	Akihiro Sugimoto
Aswin Sankaranarayanan	Kevin Shih	Baochen Sun
Elham Saraee	Hyunjung Shim	Chen Sun
Jason Saragih	Ilan Shimshoni	Jian Sun
Sudeep Sarkar	Young Min Shin	Jin Sun
Imari Sato	Koichi Shinoda	Lin Sun
Shin'ichi Satoh	Matthew Shreve	Min Sun

Qing Sun
 Zhaohui Sun
 David Suter
 Eran Swears
 Raza Syed Hussain
 T. Syeda-Mahmood
 Christian Szegedy
 Duy-Nguyen Ta
 Tolga Taşdizen
 Hemant Tagare
 Yuichi Taguchi
 Ying Tai
 Yu-Wing Tai
 Jun Takamatsu
 Hugues Talbot
 Toru Tamak
 Robert Tamburo
 Chaowei Tan
 Meng Tang
 Peng Tang
 Siyu Tang
 Wei Tang
 Junli Tao
 Ran Tao
 Xin Tao
 Makarand Tapaswi
 Jean-Philippe Tarel
 Maxim Tatarchenko
 Bugra Tekin
 Demetri Terzopoulos
 Christian Theobalt
 Diego Thomas
 Rajat Thomas
 Qi Tian
 Xinmei Tian
 YingLi Tian
 Yonghong Tian
 Yonglong Tian
 Joseph Tighe
 Radu Timofte
 Massimo Tistarelli
 Sinisa Todorovic
 Pavel Tokmakov
 Giorgos Tolias
 Federico Tombari
 Tatiana Tommasi

Chetan Tonde
 Xin Tong
 Akihiko Torii
 Andrea Torsello
 Florian Trammer
 Du Tran
 Quoc-Huy Tran
 Rudolph Triebel
 Alejandro Troccoli
 Leonardo Trujillo
 Tomasz Trzcinski
 Sam Tsai
 Yi-Hsuan Tsai
 Hung-Yu Tseng
 Vagia Tsiminaki
 Aggeliki Tsoli
 Wei-Chih Tu
 Shubham Tulsiani
 Fred Tung
 Tony Tung
 Matt Turek
 Oncel Tuzel
 Georgios Tzimiropoulos
 Ilkay Ulusoy
 Osman Ulusoy
 Dmitry Ulyanov
 Paul Upchurch
 Ben Usman
 Evgeniya Ustinova
 Himanshu Vajaria
 Alexander Vakhitov
 Jack Valmadre
 Ernest Valveny
 Jan van Gemert
 Grant Van Horn
 Jagannadan Varadarajan
 Gul Varol
 Sebastiano Vascon
 Francisco Vasconcelos
 Mayank Vatsa
 Javier Vazquez-Corral
 Ramakrishna Vedantam
 Ashok Veeraraghavan
 Andreas Veit
 Raviteja Vemulapalli
 Jonathan Ventura

Matthias Vestner
 Minh Vo
 Christoph Vogel
 Michele Volpi
 Carl Vondrick
 Sven Wachsmuth
 Toshikazu Wada
 Michael Waechter
 Catherine Wah
 Jacob Walker
 Jun Wan
 Boyu Wang
 Chen Wang
 Chunyu Wang
 De Wang
 Fang Wang
 Hongxing Wang
 Hua Wang
 Jiang Wang
 Jingdong Wang
 Jinglu Wang
 Jue Wang
 Le Wang
 Lei Wang
 Lezi Wang
 Liang Wang
 Lichao Wang
 Lijun Wang
 Limin Wang
 Liwei Wang
 Naiyan Wang
 Oliver Wang
 Qi Wang
 Ruiping Wang
 Shenlong Wang
 Shu Wang
 Song Wang
 Tao Wang
 Xiaofang Wang
 Xiaolong Wang
 Xinchao Wang
 Xinggang Wang
 Xintao Wang
 Yang Wang
 Yu-Chiang Frank Wang
 Yu-Xiong Wang

Zhaowen Wang	Jin Xie	Michael Ying Yang
Zhe Wang	Lingxi Xie	Ming Yang
Anne Wannenwetsch	Pengtao Xie	Ruiduo Yang
Simon Warfield	Saining Xie	Ruigang Yang
Scott Wehrwein	Wenxuan Xie	Shuo Yang
Donglai Wei	Yuchen Xie	Wei Yang
Ping Wei	Bo Xin	Xiaodong Yang
Shih-En Wei	Junliang Xing	Yanchao Yang
Xiu-Shen Wei	Peng Xingchao	Yi Yang
Yichen Wei	Bo Xiong	Angela Yao
Xie Weidi	Fei Xiong	Bangpeng Yao
Philippe Weinzaepfel	Xuehan Xiong	Cong Yao
Longyin Wen	Yuanjun Xiong	Jian Yao
Eric Wengrowski	Chenliang Xu	Ting Yao
Tomas Werner	Danfei Xu	Julian Yarkony
Michael Wilber	Huijuan Xu	Mark Yatskar
Rick Wildes	Jia Xu	Jinwei Ye
Olivia Wiles	Weipeng Xu	Mao Ye
Kyle Wilson	Xiangyu Xu	Mei-Chen Yeh
David Wipf	Yan Xu	Raymond Yeh
Kwan-Yee Wong	Yuanlu Xu	Serena Yeung
Daniel Worrall	Jia Xue	Kwang Moo Yi
John Wright	Tianfan Xue	Shuai Yi
Baoyuan Wu	Erdem Yörük	Alper Yılmaz
Chao-Yuan Wu	Abhay Yadav	Lijun Yin
Jiajun Wu	Deshraj Yadav	Xi Yin
Jianxin Wu	Payman Yadollahpour	Zhaozheng Yin
Tianfu Wu	Yasushi Yagi	Xianghua Ying
Xiaodong Wu	Toshihiko Yamasaki	Ryo Yonetani
Xiaohe Wu	Fei Yan	Donghyun Yoo
Xinxiao Wu	Hang Yan	Ju Hong Yoon
Yang Wu	Junchi Yan	Kuk-Jin Yoon
Yi Wu	Junjie Yan	Chong You
Ying Wu	Sijie Yan	Shaodi You
Yuxin Wu	Keiji Yanai	Aron Yu
Zheng Wu	Bin Yang	Fisher Yu
Stefanie Wuhrer	Chih-Yuan Yang	Gang Yu
Yin Xia	Dong Yang	Jingyi Yu
Tao Xiang	Herb Yang	Ke Yu
Yu Xiang	Jianchao Yang	Licheng Yu
Lei Xiao	Jianwei Yang	Pei Yu
Tong Xiao	Jiaolong Yang	Qian Yu
Yang Xiao	Jie Yang	Rong Yu
Cihang Xie	Jimei Yang	Shoou-I Yu
Dan Xie	Jufeng Yang	Stella Yu
Jianwen Xie	Linjie Yang	Xiang Yu

Yang Yu	Quanshi Zhang	Guang-Tong Zhou
Zhiding Yu	Richard Zhang	Huiyu Zhou
Ganzhao Yuan	Runze Zhang	Jiahuan Zhou
Jing Yuan	Shanshan Zhang	S. Kevin Zhou
Junsong Yuan	Shiliang Zhang	Tinghui Zhou
Lu Yuan	Shu Zhang	Wengang Zhou
Stefanos Zafeiriou	Ting Zhang	Xiaowei Zhou
Sergey Zagoruyko	Xiangyu Zhang	Xingyi Zhou
Amir Zamir	Xiaofan Zhang	Yin Zhou
K. Zampogiannis	Xu Zhang	Zihan Zhou
Andrei Zanfir	Yimin Zhang	Fan Zhu
Mihai Zanfir	Yinda Zhang	Guangming Zhu
Pablo Zegers	Yongqiang Zhang	Ji Zhu
Eyasu Zemene	Yuting Zhang	Jiejie Zhu
Andy Zeng	Zhanpeng Zhang	Jun-Yan Zhu
Xingyu Zeng	Ziyu Zhang	Shizhan Zhu
Yun Zeng	Bin Zhao	Siyu Zhu
De-Chuan Zhan	Chen Zhao	Xiangxin Zhu
Cheng Zhang	Hang Zhao	Xiatian Zhu
Dong Zhang	Hengshuang Zhao	Yan Zhu
Guofeng Zhang	Qijun Zhao	Yingying Zhu
Han Zhang	Rui Zhao	Yixin Zhu
Hang Zhang	Yue Zhao	Yuke Zhu
Hanwang Zhang	Enliang Zheng	Zhenyao Zhu
Jian Zhang	Liang Zheng	Liansheng Zhuang
Jianguo Zhang	Stephan Zheng	Zeeshan Zia
Jianming Zhang	Wei-Shi Zheng	Karel Zimmermann
Jiawei Zhang	Wenming Zheng	Daniel Zoran
Junping Zhang	Yin Zheng	Danping Zou
Lei Zhang	Yinqiang Zheng	Qi Zou
Linguang Zhang	Yuanjie Zheng	Silvia Zuffi
Ning Zhang	Guangyu Zhong	Wangmeng Zuo
Qing Zhang	Bolei Zhou	Xinxin Zuo

Contents – Part VIII

Poster Session

Learning 3D Keypoint Descriptors for Non-rigid Shape Matching	3
<i>Hanyu Wang, Jianwei Guo, Dong-Ming Yan, Weize Quan, and Xiaopeng Zhang</i>	
A Trilateral Weighted Sparse Coding Scheme for Real-World Image Denoising	21
<i>Jun Xu, Lei Zhang, and David Zhang</i>	
NNEval: Neural Network Based Evaluation Metric for Image Captioning. . . .	39
<i>Naeha Sharif, Lyndon White, Mohammed Bennamoun, and Syed Afaq Ali Shah</i>	
VideoMatch: Matching Based Video Object Segmentation	56
<i>Yuan-Ting Hu, Jia-Bin Huang, and Alexander G. Schwing</i>	
Context Refinement for Object Detection	74
<i>Zhe Chen, Shaoli Huang, and Dacheng Tao</i>	
SpiderCNN: Deep Learning on Point Sets with Parameterized Convolutional Filters	90
<i>Yifan Xu, Tianqi Fan, Mingye Xu, Long Zeng, and Yu Qiao</i>	
Modality Distillation with Multiple Stream Networks for Action Recognition	106
<i>Nuno C. Garcia, Pietro Morerio, and Vittorio Murino</i>	
Interpretable Basis Decomposition for Visual Explanation	122
<i>Bolei Zhou, Yiyou Sun, David Bau, and Antonio Torralba</i>	
Partial Adversarial Domain Adaptation	139
<i>Zhangjie Cao, Lijia Ma, Mingsheng Long, and Jianmin Wang</i>	
How Local Is the Local Diversity? Reinforcing Sequential Determinantal Point Processes with Dynamic Ground Sets for Supervised Video Summarization	156
<i>Yandong Li, Liqiang Wang, Tianbao Yang, and Boqing Gong</i>	
Toward Scale-Invariance and Position-Sensitive Region Proposal Networks . . .	175
<i>Hsueh-Fu Lu, Xiaofei Du, and Ping-Lin Chang</i>	

A Systematic DNN Weight Pruning Framework Using Alternating Direction Method of Multipliers	191
<i>Tianyun Zhang, Shaokai Ye, Kaiqi Zhang, Jian Tang, Wujie Wen, Makan Fardad, and Yanzhi Wang</i>	
Multi-object Tracking with Neural Gating Using Bilinear LSTM.	208
<i>Chanho Kim, Fuxin Li, and James M. Rehg</i>	
Clustering Convolutional Kernels to Compress Deep Neural Networks	225
<i>Sanghyun Son, Seungjun Nah, and Kyoung Mu Lee</i>	
Fine-Grained Visual Categorization Using Meta-learning Optimization with Sample Selection of Auxiliary Data	241
<i>Yabin Zhang, Hui Tang, and Kui Jia</i>	
Verisimilar Image Synthesis for Accurate Detection and Recognition of Texts in Scenes.	257
<i>Fangneng Zhan, Shijian Lu, and Chuhui Xue</i>	
Quantization Mimic: Towards Very Tiny CNN for Object Detection	274
<i>Yi Wei, Xinyu Pan, Hongwei Qin, Wanli Ouyang, and Junjie Yan</i>	
Learning to Solve Nonlinear Least Squares for Monocular Stereo	291
<i>Ronald Clark, Michael Bloesch, Jan Czarnowski, Stefan Leutenegger, and Andrew J. Davison</i>	
Extreme Network Compression via Filter Group Approximation	307
<i>Bo Peng, Wenming Tan, Zheyang Li, Shun Zhang, Di Xie, and Shiliang Pu</i>	
ArticulatedFusion: Real-Time Reconstruction of Motion, Geometry and Segmentation Using a Single Depth Camera.	324
<i>Chao Li, Zheheng Zhao, and Xiaohu Guo</i>	
MRF Optimization with Separable Convex Prior on Partially Ordered Labels	341
<i>Csaba Domokos, Frank R. Schmidt, and Daniel Cremers</i>	
Attend and Rectify: A Gated Attention Mechanism for Fine-Grained Recovery	357
<i>Pau Rodríguez, Josep M. Gonfaus, Guillem Cucurull, F. Xavier Roca, and Jordi González</i>	
LQ-Nets: Learned Quantization for Highly Accurate and Compact Deep Neural Networks.	373
<i>Dongqing Zhang, Jiaolong Yang, Dongqiangzi Ye, and Gang Hua</i>	

Retrospective Encoders for Video Summarization	391
<i>Ke Zhang, Kristen Grauman, and Fei Sha</i>	
Constraint-Aware Deep Neural Network Compression	409
<i>Changan Chen, Frederick Tung, Naveen Vedula, and Greg Mori</i>	
Video Compression Through Image Interpolation	425
<i>Chao-Yuan Wu, Nayan Singhal, and Philipp Krähenbühl</i>	
Few-Shot Human Motion Prediction via Meta-learning	441
<i>Liang-Yan Gui, Yu-Xiong Wang, Deva Ramanan, and José M. F. Moura</i>	
Straight to the Facts: Learning Knowledge Base Retrieval for Factual Visual Question Answering	460
<i>Medhini Narasimhan and Alexander G. Schwing</i>	
Joint and Progressive Learning from High-Dimensional Data for Multi-label Classification	478
<i>Danfeng Hong, Naoto Yokoya, Jian Xu, and Xiaoxiang Zhu</i>	
Video Object Detection with an Aligned Spatial-Temporal Memory	494
<i>Fanyi Xiao and Yong Jae Lee</i>	
Coded Illumination and Imaging for Fluorescence Based Classification	511
<i>Yuta Asano, Misaki Meguro, Chao Wang, Antony Lam, Yinqiang Zheng, Takahiro Okabe, and Imari Sato</i>	
Multi-scale Residual Network for Image Super-Resolution	527
<i>Juncheng Li, Faming Fang, Kangfu Mei, and Guixu Zhang</i>	
A Dataset for Lane Instance Segmentation in Urban Environments	543
<i>Brook Roberts, Sebastian Kaltwang, Sina Samangooei, Mark Pender-Bare, Konstantinos Tertikas, and John Redford</i>	
Out-of-Distribution Detection Using an Ensemble of Self Supervised Leave-Out Classifiers.	560
<i>Apoorv Vyas, Nataraj Jammalamadaka, Xia Zhu, Dipankar Das, Bharat Kaul, and Theodore L. Willke</i>	
Structure-from-Motion-Aware PatchMatch for Adaptive Optical Flow Estimation	575
<i>Daniel Maurer, Nico Marniok, Bastian Goldluecke, and Andrés Bruhn</i>	
Universal Sketch Perceptual Grouping	593
<i>Ke Li, Kaiyue Pang, Jifei Song, Yi-Zhe Song, Tao Xiang, Timothy M. Hospedales, and Honggang Zhang</i>	

Imagine This! Scripts to Compositions to Videos	610
<i>Tanmay Gupta, Dustin Schwenk, Ali Farhadi, Derek Hoiem, and Aniruddha Kembhavi</i>	
Urban Zoning Using Higher-Order Markov Random Fields on Multi-View Imagery Data	627
<i>Tian Feng, Quang-Trung Truong, Duc Thanh Nguyen, Jing Yu Koh, Lap-Fai Yu, Alexander Binder, and Sai-Kit Yeung</i>	
Quaternion Convolutional Neural Networks	645
<i>Xuanyu Zhu, Yi Xu, Hongteng Xu, and Changjian Chen</i>	
Stereo Relative Pose from Line and Point Feature Triplets	662
<i>Alexander Vakhtov, Victor Lempitsky, and Yinqiang Zheng</i>	
Computational Photography	
3D Scene Flow from 4D Light Field Gradients.	681
<i>Sizhuo Ma, Brandon M. Smith, and Mohit Gupta</i>	
Direct Sparse Odometry with Rolling Shutter	699
<i>David Schubert, Nikolaus Demmel, Vladyslav Usenko, Jörg Stückler, and Daniel Cremers</i>	
A Style-Aware Content Loss for Real-Time HD Style Transfer.	715
<i>Artsiom Sanakoyeu, Dmytro Kotovenko, Sabine Lang, and Björn Ommer</i>	
Scale-Awareness of Light Field Camera Based Visual Odometry	732
<i>Niclas Zeller, Franz Quint, and Uwe Stilla</i>	
Burst Image Deblurring Using Permutation Invariant Convolutional Neural Networks.	748
<i>Miika Aittala and Frédo Durand</i>	
Stereo and Reconstruction	
PlaneMatch: Patch Coplanarity Prediction for Robust RGB-D Reconstruction	767
<i>Yifei Shi, Kai Xu, Matthias Nießner, Szymon Rusinkiewicz, and Thomas Funkhouser</i>	
MVSNet: Depth Inference for Unstructured Multi-view Stereo	785
<i>Yao Yao, Zixin Luo, Shiwei Li, Tian Fang, and Long Quan</i>	

ActiveStereoNet: End-to-End Self-supervised Learning for Active Stereo Systems	802
<i>Yinda Zhang, Sameh Khamis, Christoph Rhemann, Julien Valentin, Adarsh Kowdle, Vladimir Tankovich, Michael Schoenberg, Shahram Izadi, Thomas Funkhouser, and Sean Fanello</i>	
GAL: Geometric Adversarial Loss for Single-View 3D-Object Reconstruction	820
<i>Li Jiang, Shaoshuai Shi, Xiaojuan Qi, and Jiaya Jia</i>	
Deep Virtual Stereo Odometry: Leveraging Deep Depth Prediction for Monocular Direct Sparse Odometry	835
<i>Nan Yang, Rui Wang, Jörg Stückler, and Daniel Cremers</i>	
Author Index	853