

State of the Journal Editorial

Sven Dickinson 

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ONCE again, it's that time of year when I provide an update on the state of our journal. Covid-19 continues to challenge us all in different ways, and I'm sensitive to the pain it's caused you all, both professionally and personally. In last year's editorial, I was hopeful that the new vaccines would help protect us, and inch us back towards a normal world. While we're clearly not out of the woods yet, I do feel that we're moving in the right direction, and I long for the day when we can connect together in person, especially at our major conferences. It's been almost two years since I've had the chance to host a live editorial board meeting – an event that I always look forward to, providing valuable feedback to me on how we can improve our journal, and offering me the opportunity to personally thank our editorial board members for their heavy lifting and for making *TPAMI* such an elite journal.

By the time you read this, my 5-year term as EIC will have ended (as of Dec. 31, 2021), and the new EIC will have started. It gives me great pleasure to introduce you all to our new EIC, Professor Kyoung Mu Lee, Seoul National University. While you will find his bio and photo at the end of this editorial, along with those of our newest AEICs and AEs, let me say that Kyoung Mu is an outstanding choice to lead our journal, having served as an AEIC of our journal, with distinction, for five years (2014-2019). His research excellence, broad knowledge of the discipline, judgement, integrity, and professionalism are exceptional. I leave our journal in his very capable hands, and know you'll all enjoy working with Kyoung Mu as much as I have. Please join me in extending a warm welcome (and our sincerest thanks!) to Kyoung Mu Lee!

It's once again been a good year for our journal. While our impact factor (IF) nudged down slightly from 17.861 (2019) to 16.39 (2020), *TPAMI* remains the top-ranked journal (in terms of IF) across all subdisciplines of AI, and one of the top-ranked journals across all of computer science. Our submissions continue to rise; as of Oct 1, 2021, we had 1662 submissions, compared to 1340 at the same time last year, an increase of 24% over last year. Our key metrics are losing ground slightly, likely due to the increased volume of submissions. For papers accepted in 2021, the average time from submission to first decision was 2.62 months, down from 2.65 months last year. However, for papers accepted in 2021, the average time from submission to acceptance was 10.05 months, up from 9.49 months last year. And for papers accepted in 2021, the average time from submission to acceptance to publication on Xplore was 11.04 months, up from 9.92 months last year. With the dramatic increase in submissions each year (submissions have roughly doubled since the beginning of my term), we're going to need some creative workflow changes in order to reduce our time to publication.

My longstanding goal of reducing workload per AE has been challenging given the dramatic rise in our submissions. Each year, I have increased the size of our editorial board, adding 26 in 2017, 22 in 2018, 39 in 2019, and 43 in 2020. In this, my final year, I've added 33 new AEs, who I'll introduce shortly. That brings the number of new AEs added over my 5-year term to 163, more than doubling the size of the editorial board from 72 AEs in 2017 to 178 AEs in 2021. Despite this significant growth, I was unfortunately not able to achieve my goal of bringing down the time from submission to e-publication to seven months – roughly the time from submission to e-publication of our top conferences. We continue to look for ways to streamline the workflow. As I mentioned last year, Joyce Arnold and I have converged on a strategy for flagging papers that require urgent attention, which should further reduce time to acceptance and publication. I'm also very hopeful that one of the automatic reviewer recommendation tools (a staple of our major conferences for many years) currently being evaluated by the IEEE Computer Society will be rolled out to help AEICs assign papers to AEs, and help AEs assign reviewers to papers.

As always, my favorite part of the editorial is introducing our new editorial board members and thanking our retiring board members. After many years of outstanding service to our journal, Kristen Grauman stepped down in early 2021. Kristen was an AEIC when I stepped into this role and, like Christoph Lampert, has been there for me since day 1. I'm really grateful for her excellent judgement, sage advice, responsiveness, and commitment to our journal. I'm pleased to announce the addition of two new computer vision AEICs, Jiaya Jia and Jana Kosecka, and one new machine learning AEIC, Yan Liu; all had stellar track records as past *TPAMI* AEs. That brings our computer vision AEIC contingent to four and our machine learning contingent to four. Please join me in thanking Kristen for her many years of distinguished service, and welcoming Jiaya, Jana, and Yan to our board! You'll find photos and bios of Jiaya, Jana, and Yan at the end of this article, along with those of Rene Vidal and Pradeep Ravikumar, two AEICs who I introduced in previous editorials, but whose photos and bios I failed to include; my apologies to them both!

I'm pleased to announce a new cohort of 33 Associate Editors that have joined in the Fall of 2021: Alex Bronstein, Michael Bronstein, Joan Bruna, Ming-Ming Cheng, Ahmed Elgammal, Cornelia Fermuller, Guillermo Gallego, Jinwei Gu, Junwei Han, Xiaolin Hu, Gang Hua, Ioannis Kakadiaris, Marius Leordeanu, Lei Li, Mingsheng Long, Michael Mahoney, Lena Maier-Hein, Vishal Patel, Hamed Pirsiavash, Gerard Pons-Moll, Daniel Rueckert, Imari Sato, Walter Scheirer, Julia A. Schnabel, Yi-Zhe Song, Yizhou Sun, Yu-Wing Tai, Trac Tran, Ashok Veeraraghavan, Meng Wang, Min-Ling Zhang, Peilin Zhao, and S. Kevin Zhou. These individuals have been selected not only for their research excellence and leadership, but their good judgement and commitment to service. You'll find their pictures and brief bios at the end of this editorial. My sincerest thanks to all these new AEs for their commitment to our journal!

I'd like to take this opportunity to thank the following outgoing AEs for their service to our journal: Nina Balcan, Kristin Dana, Francois Fleuret, Yanxi Liu, John Paisley, Stefan Roth, Eli Schechtman, Vikas Sindhwani, Le Song, Suvrit Sra, and SVN Vishwanathan. I'm really grateful to all the above AEs; as a past AE myself, I know how time-consuming the role can be at the most inconvenient times. My sincerest thanks to them all!

For the final time, I'd like to express my thanks to the many individuals that have not only helped establish *TPAMI* as an elite journal, but have been instrumental in its day-to-day operations. First, I could not do this job without the help of my stellar Associate Editors-in-Chief (AEICs): Christoph Lampert, Jun Zhu, Pradeep Ravikumar, and Yan Liu on the machine learning side, and Bernt Schiele, Rene Vidal, Jiaya Jia, and Jana Kosecka on the computer vision side. I'm very grateful to them all (and their many predecessors over the five years of my term), and feel very honored and fortunate to have been able to work with such an exceptionally talented team of individuals. In addition to assigning papers to AEs and processing administrative rejects, two very challenging and time-consuming tasks that they always complete in a timely manner, they have been wonderful advisors to me on special issues, editorial board nominations, and workflow issues. I'm deeply grateful to them all for their leadership, support, and commitment to our journal, and will miss working closely with them.

Second, in addition to our outgoing and incoming AEs, I'd like to also thank the bulk of our active AE cohort – the foundation of our editorial board. The heavy lifting behind selecting papers for our journal is done by our AEs, and I'm very grateful to them all for their outstanding service and commitment to our journal. As our submissions have risen rapidly in recent years, so too has their workload, yet they have continued to perform their duties with great care, diligence, and timeliness. It's been such a pleasure for me to get to work closely with them, and I'm sorry I've been unable to thank them all in person at an editorial board meeting at one of our major conferences in recent years. Perhaps this year or next!

Third, I'd like to thank the members of my *TPAMI* Advisory Board. Their collective experience has been a valuable resource to me these past five years. I'd like to offer a special thanks to two of its members: David Forsyth and Ramin Zabih, my two most recent *TPAMI* EIC predecessors. David and Ramin have been an enormous help to me, offering expert advice and valuable guidance on a number of occasions. Both have set a remarkable standard for service to our community, and it was incredibly reassuring to know that I could always lean on them. My sincerest thanks to you both, David and Ramin!

Fourth, I'd like to thank our entire community of reviewers, without whom we would have no journal. As the number of submissions to our conferences and journals has rapidly risen, I'm fully aware of the burden this has put on our reviewer pool in terms of workload (and on our AEs as they attempt to secure reviewers from an increasingly stressed reviewer pool). I'm very grateful to all the members of our reviewer pool for taking the time to weigh in on their community's work under these difficult conditions. It's a very unselfish yet very important service you provide to our community, and for that, I'm extremely grateful.

Fifth, I'd like to offer a special thanks to the many staff persons at the IEEE Computer Society, who have supported me in so many ways. From ScholarOne support to legal advice to workflow brainstorming to production, you are a remarkable team of individuals whose support and encouragement I'm very grateful for. I'd like to express my sincerest thanks to Robin Baldwin, Jennifer Carruth, Carrie Clark, Pilar Etuk, Antonio Rubio, Christine Shaughnessy, and Anthony VenGraitis for all their help; it's been such a pleasure to work with you all!

Finally, a very special thanks to my editorial assistant, Joyce Arnold, whom I've never met in person, but with whom I feel like I've gone on a remarkable journey together. Joyce and I have met each week (by phone) for five years, and have worked closely together to meet the many challenges facing *TPAMI*. She's always been incredibly helpful, assisting me in exploring new workflow ideas, tracking editorial board membership, flagging papers needing attention, and always being on call whenever I needed her. She, too, has felt the burden of our dramatic growth in submissions, yet has always been nothing but positive and supportive. I'm deeply grateful to Joyce for being there for me these past five years, and I will sincerely miss working with her.

This incredible array of individuals will help Kyoung Mu maintain the elite stature of our journal as it faces new challenges ahead. My sincerest thanks to you all. It's been a pleasure to work with you, and an honor to serve the *TPAMI* community.

Sven Dickinson
Editor-in-Chief



Kyoung Mu Lee received the BS and MS degrees in control and instrumentation engineering from Seoul National University (SNU), Seoul, South Korea, in 1984 and 1986, respectively, and the PhD degree in electrical engineering from the University of Southern California in 1993. He is currently with the Department of ECE, Seoul National University, as a professor. He was the vice dean (2009–2011) of Engineering School and director (2012–2014) of the Automation and Systems Research Institute (ASRI). Since 2020, he has been the director of the Interdisciplinary Program in Artificial Intelligence in Graduate School, SNU. He held affiliation with the University of California, San Diego as a visiting scientist (2011–2012). He is a coauthor of more than 65 journal papers and 160 conference papers. His research interests include computer vision and machine learning, including low-level vision, visual tracking and navigation, 3D reconstruction, human pose and shape estimation, and video analysis. He introduced the novel idea of the global skip (residual)-connection in designing deep CNN models for image restoration, which was first used in the very deep super-resolution (VDSR) algorithm (CVPR2016). The “skip connection” concept made a huge impact and became a *de facto* standard technique for CNN-based methods for low-level vision problems. He further developed a much deeper and high-performing network, enhanced deep super-resolution (EDSR), and won the first NTIRE2017 Single Image Super-Resolution (SR) Challenge in all categories. EDSR became a standard benchmark algorithm in SR. Recently, he has been working on 3D hand and 3D multiperson pose estimation problems. He was the recipient of the 2017 3D Hand Pose Estimation Challenge, the First 3D Poses in the Wild Challenge 2020, the Medal of Merit and the Scientist of Engineers of the Month Award from the Korean Government in 2020 and 2018, respectively, the Excellence in Research Award from SNU in 2020, MSRA Grant Award in 2016, the Most Influential Paper over the Decade Award by the IAPR Machine Vision Application in 2009, the ACCV Honorable Mention Award in 2007, the Okawa Foundation Research Grant Award in 2006, the Distinguished Professor Award from the College of Engineering of SNU in 2009, and both the Outstanding Research Award and the Shinyang Engineering Academy Award from the College of Engineering of SNU in 2010. He was a distinguished lecturer of the Asia-Pacific Signal and Information Processing Association (APSIPA) for 2012–2013. He was an associate editor-in-chief (AEIC) (2014–2019) and an associate editor (2014) for the IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, an associate editor for the MACHINE VISION APPLICATION (2010–2015), the IPSJ TRANSACTIONS ON COMPUTER VISION AND APPLICATIONS (2008–2012), the EURASIP JOURNAL ON APPLIED SIGNAL PROCESSING (2000–2004), the IEEE SIGNAL PROCESSING LETTERS (2012–2013), and an area editor of the COMPUTER VISION AND IMAGE UNDERSTANDING (2013–2018). He was also the general co-chair of ICCV2019, ACM MM2018, and ACCV2018, a program co-chair of ACCV2012, a track chair of ICPR2020 and ICPR2012, and an area chair of CVPR, ICCV, and ECCV many times. He is an Advisory Board member of the Computer Vision Foundation. He is a member of the Korean Academy of Science and Technology (KAST). He is currently the president of the Korean Computer Vision Society.



Jiaya Jia (Fellow, IEEE) received the PhD degree in computer science jointly from the Hong Kong University of Science and Technology and Microsoft Research in 2004. He is currently a professor with the Department of Computer Science and Engineering, The Chinese University of Hong Kong (CUHK). In 2004, he joined CUHK as an assistant professor, and was promoted to associate and full professor in 2010 and 2015, respectively. From March 2003 to August 2004, he was a visiting scholar with Microsoft. He conducted collaborative research with Adobe Research in 2007. His research team at CUHK focuses specifically on image or video understanding, detection and segmentation, multimodal AI, computational imaging, practical optimization, and advanced learning for visual content. Since 2021, he has been an associate editor-in-chief for the IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE (TPAMI), which is and continues to be one of the IEEE’s flagship journals and one of the premier journals across all of computer science. He is also on the Editorial Board of INTERNATIONAL JOURNAL OF COMPUTER VISION. He was area the chair of ICCV, CVPR, AAAI, ECCV, and of several other conferences for more than ten years. He was on program committees of major conferences in graphics and computational imaging, including ICCP,

SIGGRAPH, and SIGGRAPH Asia. His research was funded by Microsoft, Qualcomm, Adobe, Intel, NVidia, Amazon, Lenovo, and several other companies. His papers were cited more than 30 000 times on Google Scholar. His more than 40 PhDs and fellows from this group are now active in academia and industry, and have become prominent AI tech leaders as professors, directors in major research labs, and founders of several successful startups.



Jana Kosecka (Senior Member, IEEE) received the MSE degree in electrical engineering and computer science from Slovak Technical University and the PhD degree in computer science from the University of Pennsylvania in 1996. She is currently a professor with the Department of Computer Science, George Mason University. She was a postdoctoral fellow with EECS Department, University of California, Berkeley. She held visiting positions at Stanford University, Google, and Nokia Research. She has authored or coauthored more than 200 publications in refereed journals and conferences, and is a coauthor of a monograph titled *Invitation to 3D vision: From Images to Geometric Models*. Her research interests include computer vision, robot perception, artificial intelligence, “seeing” systems engaged in autonomous tasks, acquisition of static, dynamic and semantic models of environments by means of visual sensing, object recognition, and human–computer interaction. She was the recipient of the David Marr’s Prize in Computer Vision and National Science Foundation CAREER Award. She is a former chair of IEEE Robotic Society’s Technical Committee on Computer Vision, associate editor for *IEEE Transactions on Robotics*, and editor of *Robotics and Automation Letters*. She is a member of the Editorial Board of *International Journal of*

Computer Vision. She was the program chair of CVPR 2017, general chair of ICCV 2023, and an associate editor-in-chief for IEEE Conference on Robotics and Automation.



Yan Liu received the PhD degree from Carnegie Mellon University in 2006. She is currently a full professor with Computer Science Department and the director of Machine Learning Center with University of Southern California. From 2006 to 2010, she was a research staff member with IBM Research. She is a world-leading researcher in machine learning and applications. She has authored or coauthored more than 100 papers in top conferences and journals in machine learning and related conferences. Her contributions have been recognized by several major awards and honors, such as New Voices in Academies of Science, Engineering, and Medicine, ACM Distinguished Member, IEEE Senior Member, National Academy of Invention Senior Member, Biocom Catalyst Award, NSF CAREER Award, ACM Dissertation Award Honorable Mention, and Okawa Foundation Research Award. She served as senior Program Chair of ICLR 2022, associate program chair of AAAI 2021, General co-Chairs for ACM KDD 2020, and Program co-Chairs.



Pradeep Ravikumar is currently an associate professor with Machine Learning Department, School of Computer Science, Carnegie Mellon University. He was an associate professor with the Department of Computer Science and an associate director with the Center for Big Data Analytics, University of Texas at Austin. His research focuses on the foundations of statistical machine learning, under two main verticals: “graceful AI” and “scrappy AI.” In graceful AI, the aim is to learn ML models that are explainable, robust to train and test time corruptions, and resilient to distribution shifts. While in scrappy AI, the aim is to learn ML models under resource constraints by providing or discovering various notions of “structure” and domain knowledge. His thesis has received honorable mentions in the ACM SIGKDD Dissertation Award and the CMU School of Computer Science Distinguished Dissertation Award. He is a Sloan fellow and Siebel Scholar. He was the recipient of the NSF CAREER Award. He was the program chair for the INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND STATISTICS in 2013. He is an associate editor-in-chief for the IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, and an action editor for the *Machine Learning* journal and the *Journal of Machine Learning Research*.



René Vidal (Fellow, IEEE) received the BS degree in electrical engineering (valedictorian) from the Pontificia Universidad Católica de Chile in 1997, and the MS and PhD degrees in electrical engineering and computer science from the University of California at Berkeley in 2000 and 2003, respectively. He is the Herschel L. Seder professor of biomedical engineering and the inaugural director of the Mathematical Institute for Data Science (MINDS), The Johns Hopkins University, an Amazon scholar, and a chief scientist with NORCE. He is also the director of the NSF-Simons Collaboration on the Mathematical Foundations of Deep Learning and the director of the TRIPODS Institute on the Foundations of Graph and Deep Learning. He is a coauthor of the book *Generalized Principal Component Analysis* (Springer, 2016), coeditor of the book *Dynamical Vision* (Springer, 2006) and coauthored of more 300 articles in machine learning, computer vision, signal and image processing, biomedical data science, robotics, and control. He was an associate editor-in-chief and associate editor for the *IEEE Transactions on Pattern Analysis and Machine Intelligence* and *Computer Vision and Image Understanding*; associate editor for the *Medical Image Analysis*, *SIAM Journal on Imaging Sciences* and *Journal of Mathematical Imaging and Vision*; and the guest editor of the *International Journal of Computer Vision* and *IEEE Signal Processing Magazine*. He was the general chair, program chair, or area chair for all major conferences in machine learning, computer vision, and medical image analysis. He was the recipient of the 2021 Edward J. McCluskey Technical Achievement Award, 2018 D’Alembert Faculty Fellowship, 2012 IAPR J.K. Aggarwal Prize, the 2009 ONR Young Investigator Award, the 2009 Sloan Research Fellowship, and the 2005 NFS CAREER Award. He was also the recipient of best paper awards at JVCI 2015, ICCV-3DRR 2013, PSIVT 2013, CDC 2012, MICCAI 2012, CDC 2011, and ECCV 2004. He is a fellow of the AIMBE and IAPR, and a member of the ACM and SIAM.



Alex Bronstein (Fellow, IEEE) received the BSc and MSc (both summa cum laude) degrees from the Department of Electrical Engineering and the PhD degree from the Department of Computer Science, Technion, in 2002, 2005, and 2007, respectively. He is currently a professor with the Department of Computer Science, Technion, holding the Schmidt Chair in artificial intelligence and heading the Center for Intelligent Systems. In addition to his academic activities, he is a technological entrepreneur and investor. He cofounded and served in leading technical roles in various startup companies including the Israeli media startup Videocites offering Internet-scale B2B video indexing, the Israeli biomedical startup Embryonics building AI products for the fertility market, and the U.K.-based stealth-mode fintech startup Sibylla. His research interests include theoretical and computational methods in geometric data analysis and their application to problems in computer vision, pattern recognition, shape analysis, computer graphics, imaging and image processing, and machine learning.



Michael Bronstein (Fellow, IEEE) received the PhD degree from Technion in 2007. He is currently a professor with Imperial College London, where he holds the Chair in machine learning and pattern recognition, and head of Graph Learning Research, Twitter. He held visiting appointments with Stanford, MIT, and Harvard, and was also affiliated with three Institutes for Advanced Study, with TUM as a Rudolf Diesel Fellow from 2017 to 2019, with Harvard as a Radcliffe fellow from 2017 to 2018, and with Princeton as a short-time scholar in 2020. He is a member of the Academia Europaea, fellow of IAPR, BCS, and ELLIS, ACM Distinguished Speaker, and World Economic Forum Young Scientist. In addition to his academic career, Michael is a serial entrepreneur and founder of multiple startup companies, including Novafora, Invision (acquired by Intel in 2012), Videocites, and Fabula AI (acquired by Twitter in 2019). He was the recipient of the Royal Society Wolfson Research Merit Award, Royal Academy of Engineering Silver Medal, five ERC grants, two Google Faculty Research awards, and two Amazon AWS ML Research awards.



Joan Bruna received the the BA and MS degrees in mathematics and telecommunication engineering from Universitat Politècnica de Catalunya (UPC), Barcelona, the MSc degree in applied mathematics (MVA) from Ecole Normale Supérieure de Cachan, and the PhD degree from Ecole Polytechnique, France, in 2013. Before his PhD he was a research engineer with a semi-conductor company, developing real-time video processing algorithms. He is currently an associate professor with the Department of Computer Science, Department of Mathematics (affiliated), and the Center for Data Science, Courant Institute, New York University (NYU). He belongs to the CILVR group and to the Math and Data groups. From 2015 to 2016, he was an assistant professor of statistics with UC Berkeley and part of BAIR (Berkeley AI Research). Before that, he was with FAIR (Facebook AI Research), New York. Prior to that, he was a postdoctoral researcher with Courant Institute, NYU. He was the recipient of the Sloan Research Fellowship in 2018, NSF CAREER Award in 2019, Best Paper Award at ICMLA in 2018, and the IAA Outstanding Paper Award.



Ming-Ming Cheng (Senior Member, IEEE) received the PhD degree from Tsinghua University in 2012. He was with Prof. Philip Torr in Oxford for two years. He is currently a professor with the College of Computer Science, Nankai University, leading the Media Computing Lab. He has authored or coauthored more than 100 papers in leading journals and conferences, such as *IEEE Transactions on Pattern Analysis and Machine Intelligence*, *ACM Transactions on Graphics*, and *IEEE CVPR*. His research interests include computer vision and computer graphics. Many of his algorithms have become quite popular in the community, receiving more than 20000 paper citations. He was the recipient of several research awards including the ACM China Rising Star Award and the IBM Global SUR Award.



Ahmed Elgammal received the MSc and PhD degrees in computer science from the University of Maryland, College Park, in 2000 and 2002, respectively. He is currently a professor with the Department of Computer Science and an executive council faculty with the Center for Cognitive Science, Rutgers University. He is the founder and director of the Art and Artificial Intelligence Laboratory, Rutgers, which focuses on data science in the culture domain. He has authored or coauthored more than 200 peer-reviewed papers, book chapters, and books in the fields of computer vision, machine learning, and digital humanities. His research on knowledge discovery in art history and AI-art generation received global media attention, including several reports on the Washington Post, New York Times, NBC, CBS News, Science News, and many others. In 2016, a TV segment about his research, produced for PBS, has won an Emmy Award. He was the recipient of the National Science Foundation CAREER Award in 2006.



Cornelia Fermüller received the MS degree in applied mathematics from the University of Technology, Graz, Austria, and the PhD degree in applied mathematics from the Technical University of Vienna, Austria. She is currently a research scientist with the Institute for Advanced Computer Studies, University of Maryland at College Park (UMIACS). She cofounded the Autonomy Cognition and Robotics (ARC) Lab and co-leads the Perception and Robotics Group, UMD. Her research interests include computer vision, human vision, and robotics. She studies and develops biologically inspired computer vision solutions for systems that interact with their environment. In recent years, her work has focused on the interpretation of human activities, and on motion processing for fast active robots (such as drones) using as input bio-inspired event-based sensors.



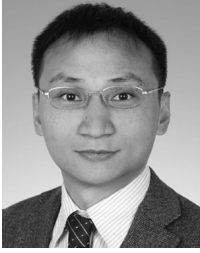
Guillermo Gallego (Senior Member, IEEE) received the PhD degree in electrical and computer engineering from the Georgia Institute of Technology, Atlanta, GA, USA, in 2011. He is currently an associate professor with the Department of Electrical Engineering and Computer Science, Technische Universität Berlin, Berlin, Germany, and the Einstein Center Digital Future, Berlin, Germany. He is also a PI of the science of intelligence excellence cluster, Berlin. His PhD degree was supported by a Fulbright Scholarship. From 2011 to 2014, he was a marie curie researcher (EU's FP7 Programme) with Universidad Politécnica de Madrid, Spain, and from 2014 to 2019, he was a postdoctoral researcher with Robotics and Perception Group, University of Zurich and ETH Zurich, Switzerland. His research interests include robotics, computer vision, signal processing, optimization, and geometry. For his research in event-based vision, he was co-awarded the 2017 Misha Mahowald Prize in Neuromorphic Engineering. For his service, he has been recognized as an IEEE RAL Outstanding Associate Editor in 2021, and as an outstanding reviewer at top tier computer vision conferences ICCV in 2019, and CVPR in 2021.



Jinwei Gu (Senior Member, IEEE) received the PhD degree from Columbia University in 2010, and the BS and MS degrees from Tsinghua University, in 2002 and 2005 respectively. He is currently the R&D executive director of SenseTime Research USA. Before joining SenseTime, he was a senior research scientist with NVIDIA Research from 2015 to 2018. Prior to that, he was an assistant professor with the Rochester Institute of Technology from 2010 to 2013, and a senior researcher with the Media Lab, Futurewei Technologies, from 2013 to 2015. He has authored or coauthored more than 60 papers in top-tier journals and conferences and has 16 issued patents. His current research interests include low-level computer vision, computational photography, smart visual sensing and perception, and robotics. He has been an area chair for ICCV2019, ECCV2020, and CVPR2021, and was the industry chair for ICCP 2020.



Junwei Han is currently a professor with the School of Automation, Northwestern Polytechnical University, China. He has authored or coauthored more than 150 papers in leading journals and conferences such as *IEEE TPAMI*, *IJCV*, *CVPR*, *ICCV*, *MICCAI*, and *IJCAI*. His research interests include computer vision, pattern recognition, remote sensing image analysis, and medical image analysis. He was the recipient of the 2021 IEEE Transactions on Circuits and Systems for Video Technology (TCSVT) Best Paper Award and the IEEE Geoscience and Remote Sensing Society (GRSS) 2021 Highest Impact Paper Award. He is an associate editor for several journals including *IEEE Transactions on Pattern Analysis and Machine Intelligence* and *IEEE Transactions on Multimedia*. He is an area chair for several conferences including CVPR 2021, ACCV 2020, and ICPR 2020. He is a Fellow of the IET.



Xiaolin Hu (Senior Member, IEEE) received the PhD degree from The Chinese University of Hong Kong in 2007. He is currently an associate professor with the Department of Computer Science and Technology, Tsinghua University, Beijing, China. He was a postdoc with Tsinghua University from 2007 to 2009. His research interests include deep learning, computational neuroscience, developing brain-inspired computational models, and revealing the visual and auditory information processing mechanism in the brain. He is currently an associate editor for the *IEEE Transactions on Pattern Analysis and Machine Intelligence* and *IEEE Transactions on Image Processing and Cognitive Neurodynamics*. He was previously an associate editor for the *IEEE Transactions on Neural Networks and Learning Systems*.



Gang Hua (Fellow, IEEE) received the PhD degree in ECE from Northwestern University in 2006. He is currently the chief scientist with Worpex AI Research. His research interests include computer vision, pattern recognition, machine learning, and robotics. He was the recipient of the 2015 IAPR Young Biometrics Investigator Award. He is a program chair for CVPR'2022 and CVPR'2019. He will also be a general chair for ICCV'2025. He is an IAPR fellow and an ACM distinguished scientist.



Ioannis A. Kakadiaris (Senior Member, IEEE) received the BSc degree in physics from the University of Athens, Greece, the MSc degree in computer science from Northeastern University, and the PhD degree from the University of Pennsylvania. He is a Hugh Roy and Lillie Cranz Cullen distinguished university professor of computer science with the University of Houston (UH), where he directs the Computational Biomedicine Lab (CBL). He has a long and distinguished track record in biometrics, data/video analytics, and artificial intelligence. His team has made contributions in the areas of the face and ear recognition and profile-based face recognition. CBL's 3D-3D face recognition software ranked first in the 3D-shape section of the 2007 Face Recognition Vendor Test organized by NIST. He proposed 3D aided 2D Face Recognition, which created a new research field later called heterogeneous or asymmetric face recognition that, for the first time, enabled matching 3D data with legacy 2D data. CBL's research has been supported by the federal (NIH, NSF, Army Research Labs, DHS, and National Institute of Justice), state (Texas Higher Education Coordinating Board), industry (SGI, American Honda, Microsoft Research, Unisys, Siemens Medical Solutions, and BP America), foundations (Juvenile Diabetes Research Foundation and Schlumberger Technical Foundation), and international funding organizations (French Partner University Fund). His research has been featured on Discovery Channel, National Public Radio, KPRC NBC News, KTRH ABC News, and KHOU CBS News. He was the recipient of the UH Computer Science Research Excellence Award two times. He has been recognized for his research with several distinguished honors, including the NSF Early Career Development Award, the Schlumberger Technical Foundation Award, the UH Teaching Excellence Award, and the James Muller Vulnerable Plaque Young Investigator Prize. He was the VP of Technical Activities at the IEEE Biometrics Council, program co-chair for BTAS 2019, general co-chair for IJCB 2020, and a graduate of the NSF iCORPS program.



Marius Leordeanu received the bachelor's degree in mathematics and computer science from Hunter College - City University of New York in 2003 and the PhD degree in robotics from Carnegie Mellon University in 2009. He is currently a professor with the University Politehnica of Bucharest (UPB) and senior researcher with the Institute of Mathematics of the Romanian Academy (IMAR). In 2020, he authored or coauthored a book, *Unsupervised Learning in Space and Time* (Springer), which proposes a general unsupervised learning model that brings together the powers of graphs and deep neural networks. His research interests include vision and learning, with main focus on unsupervised learning in the space-time domain, vision for drones and aerial scene understanding, optimization on graphs and neural nets, and relating vision to natural language. He coordinates several research groups, both in academia and industry, having strong collaborations on topics that range from general computer vision including Google, Bitdefender, and NORCE, to specific applications for autonomous vehicles including ARNIA, Google, and NORCE, the wood industry including Fordaq, and medical imaging including Siemens. He was the recipient of the Grigore Moisil Prize in mathematics for his work on graph matching and unsupervised learning in 2014, the top award given by the Romanian Academy.



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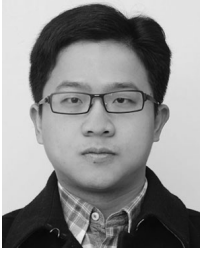


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