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# FATIH PORIKLI

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I have conceived, pitched, negotiated and delivered numerous computer vision projects to corporate and government clients. I have driven the creation of key technologies and directly contributed to actual products for a broad spectrum of applications including video surveillance, autonomous navigation, consumer electronics, industrial inspection, medical, satellite, defense, and power generation systems.

I understand how to create value through analyzing visual data and distinguish real capability from marketing hyperbole, and have the technical skills to deliver meaningful results in complex environments.

My work and the success of the groups I led in the past reveal my technical and people leadership abilities. I built capable research and development teams that exceeded expectations, and I line-managed team leaders, senior researchers and engineers.

## HIGHLIGHTS:

- Head of large research groups
- **IEEE Fellow** for contributions to **computer vision and video surveillance** (Computer Society)
- Inventor of **71** US patents (all granted)
- Winner of the **R&D100 Award**, category: Scientist of the Year (select group of winners), 2006
- Contributed technology for multiple products with gross sales of \$1.1B
- Won **5** Best Paper Awards
- Won **5** Professional Awards
- Google Scholar h-index: **45**, i10-index: **116**
- Published **190+** papers that received **10,000+** citations
- Associate Editor of **6** Journals (IEEE SPM: impact factor 6.0, SIIMS: rank 2/236 in applied math)
- World leading expert in **Deep Learning** (see my IEEE Spectrum interviews)
  - Applied deep learning to classification, object detection/localization, tracking, saliency, proposal generation, super-resolution, stylization, domain adaptation, denoising, depth estimation, segmentation, activity recognition, unsupervised learning, change detection
  - Published work using CNNs, LSTMs, autoencoders, GANs, multi-stream, Siamese, triplets, inception networks, attention models
  - Used matconvnet, tensorflow, caffe, theano, lua/torch
  - Serving as the Lead Associate Editor of special issues on deep learning for IEEE journals, Area Chair for deep learning papers, organizer of deep learning workshops

## WORK EXPERIENCE:

**2016 – Present**    **Huawei**, Santa Clara, CA, USA

*Chief Scientist, Innovation of Vehicles & Media Technologies Labs*

- Leading all aspects of a product oriented special project (autonomous vehicles and deep learning)
- Directing multiple teams across two continents, recruiting team members
- Setting the vision, strategic direction and technical agenda of the lab
- Managing day-to-day operations including software development

**2013 – Present**     **Australian National University (ANU)**, Canberra, Australia  
Professor (Full & Tenured), Research School of Engineering

- Won Australian Renewable Energy Grant on Robotic Visual Inspection of Solar Plants, **\$3,081K**
- Won ARC Discovery Grant 2015, Semantic Vectorization, \$374K
- Taught the Engineering Data Analytics course

**2013 – 2016**     **National ICT Australia, NICTA** (merged into CSIRO), Canberra, Australia  
Group Leader, Computer Vision Research Group

- Led a group of **60+** researchers (principal, senior, adjunct) and research engineers
- Managed **\$2.4M+\$1.1M** annual operating budget, recruited researchers
- Directed all strategic, tactical, business and research program of the research group
- Helped the group to **triple** its scientific outcome, promoted an innovative and collaborative culture
- Transitioned the group to adapt to new challenges and organizational structure changes
- Promoted a rewarding, innovative, enthusiastic, open-minded and collaborative culture

**2000 – 2013**     **Mitsubishi Electric Research Laboratories**, Cambridge, MA, USA  
Distinguished Member Research Staff & Technical Manager, Imaging Group

- Technically managed several project oriented teams, hired people and allocated given resources
- Selected consistently among the **Best Performing** employees at MERL from 2003 to 2013
- Won the MELCO **Research Excellence Awards** in 2009 & 2011, the MELCO **Presidents Award** 2007, and the MERL **Directors Award** 2008 in recognition of contributions to strategic products
- Developed fundamental technologies for **key products**: Particle Beam IGRT, Surveillance DVR DX2500, MELCO Car Navigation, Satellite/SAR Imaging Suit, Electronic Toll Collection, Vehicle Traffic Control, Mitsubishi DTV Decoder, Physical Security PC55EXP, HD Helicopter Television, MPEG Decoder IC, MELCO Digital Signage
- Proposed and technically contributed to (partial list):
  - Multi-modal multi-sensor data enhancement (compressive sensing, fusion, super-resolution)
  - Object detection, classification & tracking for indoors/outdoors surveillance systems
  - Medical data analysis for particle beam IGRT systems
  - Stabilization/tracking for aerial cameras/radars, compression for car navigation devices
  - Camera sensor based traffic flow control & advanced electronic toll collection systems

**1999 – 2000**     **Hughes Research Laboratories**, Malibu, CA, USA  
Information Sciences Lab

- Developed novel road extraction methods for very low-resolution multi-spectral satellite images as a key component of aerial surveillance products
- Designed an electron microscope data analyzer to determine nano-level properties of atomic structures to reduce the cost of special IC production

**1997 – 1998**     **AT&T Bell Labs**, Holmdel, NJ, USA  
Image Processing Group

- Developed boundary accurate 3D estimation methods for experimental 3D display
- Prepared a comprehensive formulation of psychometric aspects of 3D perception to reduce eye-strain

## TECHNICAL HIGHLIGHTS: *(not full list)*

- Forerunning **deep learning** research initiatives: invented the world-first deep learning based object tracker, developed the state-of-the-art deep learning based image ultra-resolution (64x~100x) solutions, developed numerous CNN, RNN, LSTM, and autoencoder, based object/action classification, domain transfer, metric learning, face recognition and visual question answering methods, co-organized the IEEE DeepVision Workshops at CVPR 2014, CVPR 2015, and CVPR 2016, serving as the co-editor of “Deep Learning for Video Surveillance” Special Issue of IEEE T-CSVT, serving as the Area Chair in deep learning at flagship conferences
- Invented novel **features & manifold learning** methods: relational combinatorial features that provide 70x speedup and 5x~20x less errors (award winning), region covariance matrix descriptor that is demonstrated as one of the best region features for segmentation, detection, and recognition (1000+ citations), boosted feature selection and classifier adaptation method that achieves the minimal memory imprint (3% of original) for low-cost on-camera systems
- Developed **classification & learning** methods, **video analytics**: the first manifold boosting classifiers that provide 10x performance improvement while running 30x faster than traditional SVMs: one of the most accurate (96% accuracy @ $10^{-5}$  FA) human detection methods (award winning), Fourier Frequency Mapping for fast SVM kernel approximation (50x acceleration, award winning), automatic parameter estimation & outlier detection methods using spectral clustering (key feature of video analytics products), analytical manifold learning methods (improve detection rate 90% for large affine transforms), “Value of Information” metrics that provide 4x more accurate active learning, online dictionary learning methods (for lightweight processing), kernel based weakly supervised clustering that improves accuracy from 60% to 99%, the fastest traffic congestion method using HMMs (robust to any lighting condition, achieves 95% accurate detection), dictionary learning based robust low-rank and subspace learning
- Developed state-of-the-science **computer vision** solutions: automatic video object segmentation (10x faster than motion segmentation, ‘product quality’ object trackers including multi-kernel mean-shift, regression, particle filtering (improve performance from 73% to 90%) for surveillance and medical applications, robust fast (100fps/single target) UAV aerial target tracking, multi-modal registration for optical, infrared, and medical imagery, the first dynamic programming based calibration method for multi-camera networks, essential tools to imaging products including filter banks, MPEG-7 metadata generation, level-set image segmentation, image reconstruction (4x super-resolution), the first statistical mixture of model fitting for effective removal of moving cast shadows (45% better detection)
- Developed advanced high dimensional **signal processing** algorithms: matrix decomposition based texture compression (5x improvement over JPEG), Bayesian update fitting of stochastic models to temporal data (2x more accurate than online EM when models overlap), high accuracy automatic target detection for very noisy (6dB) radar signals, frequency synthesis for MPEG-2 that minimizes the design complexity and drift (3dB improvement in HDTV streams), bandwidth renegotiation that minimizes latency 35% while optimizing bandwidth (a new feature of Mitsubishi QS Router)
- Developed sensor network based **cyber-physical systems** including real-time patient monitoring for IGRT system (with 2mm precision), motion sensor network that monitors living/working spaces to optimize task scheduling and event detection, critical care monitoring system using Dynamic Bayesian Networks and multi-modal bio-signal analysis for real-time human state prediction (remote health monitoring), autonomous driving system that detects objects for obstacle avoidance (car navigation)
- Designed **high performance computing** methods: one of the fastest bilateral filtering method that runs in constant time (runs at 200fps @ 1MB data on NVIDIA GPU using CUDA), highly cited (900+) integral histogram that accelerates search more than 100x, parallel processing algorithms that accelerate signal processing tasks up to 80x, efficient scan-line search using dynamic programming for distortion compensation from  $O(M^4 \times M)$  to  $O(M^2)$  complexity that enables projecting video onto any dynamic surface, volumetric synthesis and rendering (CT to 4DCT / ultrasound / X-ray)

## HONORS:

- **IEEE Fellow** for contributions to computer vision and video surveillance, Computer Society
- **R&D100 Award**, category: Scientist of the Year (select group of winners), 2006
- **Best Student Paper Award**, IEEE ACCV 2016
- **Best Tracker Prize**, IEEE VOT Workshop, ECCV 2016
- **Best Poster Award**, IEEE AVSS 2014
- **Best Paper Award**, IEEE AVSS 2011
- **Best Paper Award**, IEEE OTCBVS Workshop, in conjunction with IEEE CVPR 2010
- **Best Paper Award – Runner up** (out of 1300 papers), IEEE CVPR 2007
- **Public Utility Systems Research Excellence Award** for excellent performance of developed technology for the system deciphering damages through the Helicopter TV images, 2009
- **MELCO-ATC Excellence Award** for contribution to planning and monitoring technologies for scanning particle beam therapy, 2009
- **Corporate R&D Award** for contributions to product competitiveness through innovative algorithm development for video surveillance systems, 2008
- **MERL Directors Award** for contributions to product development of medical image based alignment technology for particle beam radiotherapy, 2008
- **Most Popular Scientist Award** from Popular Science Magazine, TR, 2007
- **Best Paper Award – nomination** (out of 900 papers), IEEE ICME 2007
- **Best Paper Award – nomination** (out of 250 papers), IEEE AVSS 2009
- 5 and 10 years of **High Achievement Awards** by MERL 2005, 2010
- **Top 0.005%** in the National University Entrance Exam
- Ranked **32<sup>nd</sup>** among **700,000** students
- Full scholarship for overseas doctorate study from National High Educational Council (**Top 1%**)
- Full scholarship for 5 years from the Board of Education of Bilkent University (**Top 2.5%**)
- Honorable mention at the Regional Peace Poems Awards

## EDUCATION:

- 2002**    **Ph.D., Electrical & Computer Engineering**  
New York University, NY  
Minors: 1.Mathematics, 2.Computer Science  
Thesis: Automatic Video Object Segmentation. Advisor: Prof Yao Wang (IEEE Fellow)
- 1996**    **M.S. Electrical Engineering**  
New York University, NY  
Concentration: Signal Processing Motion Estimation. Advisor: Prof Yao Wang (IEEE Fellow)  
University of Southern California, Los Angeles, CA. Enrolled in EE; transferred to NYU – Poly
- 1992**    **B.S. Electrical Engineering**  
Bilkent University, Ankara, TR. Advisor Prof Levent Onural (IEEE Fellow)

## TALKS:

- Interview:** “Deep Learning”, IEEE Spectrum Magazine, 2016  
Ask the Experts Panel, IEEE Spectrum Magazine, 2016

<http://theinstitute.ieee.org/ieee-roundup/opinions/question/ask-the-experts-artificial-intelligence>  
 Lecture: "Data driven learning", Robotic Vision Summer School, 2016  
 Lecture: "Image processing by dictionary Learning", Advanced Disciplines, Xidian University, 2015  
 Panel Talk: "Commercialization of computer vision", Charles Sturt University, 2015  
**Keynote:** "Learning on manifolds for computer vision", CCCV, 2015  
 Lecture: "Sparse representations", Robotic Vision Summer School, 2015  
**Tutorial:** "Riemannian Geometry in Computer Vision," ACCV, 2014  
 Panel Talk: "Commercialization of Computer Vision", IEEE Workshop LSVISCom (with ICCV), 2013  
 Invited Talk: "Dictionary learning", University of Colorado, Colorado Springs, 2013  
**Tutorial:** "Differential Geometric Methods for Shape Analysis and Activity Recognition", CVPR, 2012  
**Invited Colloquium:** "Computer vision manifolds", University of Minnesota, IMA, 2011  
 Invited Talk: "Learning in non-linear spaces", Brown University, 2011  
**Keynote:** "Vision application of structural learning through manifolds", IAPR S+SSPR, 2010  
 Invited Talk: "Video analytics", Siemens, 2010  
**Invited Colloquium:** "Inference on manifolds", Boston University, ECE, 2010  
 Invited Talk: "Is world made of manifolds?" The Ohio State University, 2009  
 Invited Talk: "Future of surveillance systems", IEEE AVSS, Genoa, 2009  
 Panel: "Surveillance technologies from a practical point of view", IEEE AVSS, 2009  
**Plenary:** "Past and future of smart camera systems", IEEE DICTA, 2008  
 Invited Talk: "Manifold learning", MIT, 2008  
**Keynote:** "Future generation detection and tracking systems", ISVC, 2007  
 Invited Talk: "Detection, classification and tracking in manifolds", Google, 2007  
 Panel: "Issues in video analytics: research vs. applications", IEEE AVSS, 2007  
 Invited Talk: "Covariance matrix descriptors", Boston University, CS Department, 2006  
 Invited Talk: "Object detection and tracking", University of Illinois-Chicago, 2006  
 Invited Talk: "Combining detection and tracking", Sarnoff, 2005  
 Invited Talk: "Advanced computer vision solutions for surveillance systems", Rutgers University, 2005  
 Invited Talk: "How to learn backgrounds in challenging environments", EPFL, 2004  
 Invited Talk: "Image processing tools for multi-camera systems", University of Maryland, 2003  
 Invited Talk: "Video object segmentation using video-cubes", Carnegie-Mellon, 2003

## ACADEMIC ROLES:

### Editor:

- **Associate Editor**, IEEE Signal Processing Magazine, 2011 to present (impact rate 6.0)
- **Associate Editor**, IEEE Transactions on Multimedia, 2017 to present
- **Associate Editor**, SIAM Imaging Sciences, 2011 to present (rank 2 / 236 in applied math)
- **Associate Editor**, Journal of Machine Vision Applications, Springer, 2006 to present
- **Associate Editor**, EURASIP Journal of Image & Video Processing, 2011 to present
- **Associate Editor**, Journal of Real-Time Image and Video Processing, Springer, 2004 to present
  
- **Guest Editor**, IEEE Signal Processing Magazine, Special Issue on Deep Learning for Visual Understanding, F. Porikli, S. Shan, C. Snoek, R. Sukthankar, X. Wang, 2017
- **Guest Editor**, IEEE Signal Processing Magazine, Special Issue on Image/Video Saliency Detection and Segmentation for Big Data, J. Han, J. Shen, D. Xu, L. Shao, F. Porikli, J.-N. Hwang, 2017
- **Guest Editor**, IEEE T-CSVT, Special Issue on Deep Learning for Video Surveillance, F. Porikli, L. Davis, Q. Wang, Y. Li, 2016

- **Guest Editor**, IEEE T-CSVT, Special Issue on Large Scale and Nonlinear Similarity Learning for Intelligent Video, W. Zuo, L. Lin, A. Yuille, H. Bischof, L. Zheng, F. Porikli, 2016
- **Guest Editor**, Pattern Recognition, Special Issue on Discriminative Feature Learning from Big Data for Visual Recognition, Z. Jiang, Z. Lin, H. Ling, F. Porikli, L. Shao, P. Turaga, 2015
- **Guest Editor**, Journal of Machine Vision Applications, Special Issue on Car Navigation, 2011
- **Guest Editor**, Journal of Machine Vision Applications, Special Issue on Dynamic Textures, 2009
- **Guest Editor**, EURASIP JIVP, Special Issue on Video Tracking in Complex Scenes, 2008

#### Conference Organization:

- **General Chair**, IEEE Conf. on Advanced Video & Signal Based Surveillance (AVSS), 2010
- **General Chair**, IEEE Winter Applications and Computer Vision Conference (WACV), 2014
- **Chair of Steering Committee**, IEEE Conf. on Advanced Video & Signal Based Surveillance (AVSS)
- **Technical Program Chair**, IEEE Winter Applications & Computer Vision Conference (WACV), 2015
- **Technical Program Chair**, IEEE Workshop on Applications in Computer Vision (WACV), 2013
- **Technical Program Chair**, IEEE Advanced Video & Signal Based Surveillance (AVSS), 2012
- **Area Chair**, IEEE Winter Applications and Computer Vision Conference (WACV), 2017
- **Area Chair**, IEEE Asian Conference on Computer Vision (ACCV), 2016
- **Area Chair**, IEEE International Conference on Image Processing (ICIP), 2016
- **Area Chair**, IAPR International Conference on Pattern Recognition (ICPR), 2016
- **Area Chair**, 29th Australasian Joint Conference on Artificial Intelligence (AI), 2016
- **Special Tracks Chair**, International Symposium on Visual Computing (ISVC), 2016
- **Area Chair**, IEEE International Conference on Computer Vision (ICCV), 2015
- **Area Chair**, 27th Australasian Joint Conference on Artificial Intelligence (AI), 2015
- **Area Chair**, IEEE Conf. on Advanced Video & Signal Based Surveillance (AVSS), 2015
- **Area Chair**, IEEE International Conference on Image Processing (ICIP), 2014
- **Track Chair**, IAPR International Conference on Pattern Recognition (ICPR), 2014
- **Area Chair**, IEEE Conf. on Advanced Video & Signal Based Surveillance (AVSS), 2013
- **Area Chair**, International Symposium on Visual Computing (ISVC), 2013
- **Area Chair**, IAPR International Conference on Image Analysis and Processing (ICIAP), 2013
- **Area Chair**, IEEE International Conference on Intelligent Transportation Systems (ITSC), 2013
- **Special Tracks Chair**, International Symposium on Visual Computing (ISVC), 2012
- **Track Chair**, IAPR International Conference on Pattern Recognition (ICPR), 2010
- **Special Tracks Chair**, International Symposium on Visual Computing (ISVC), 2009
- **Area Chair**, IEEE Conf. on Computer Vision & Pattern Recognition (CVPR), 2009
- **Track Chair**, IEEE International Conference on Multimedia & Expo (ICME) 2007, 2008
- **Special Tracks Chair**, International Symposium on Visual Computing (ISVC), 2007
- **Corporate Relations Chair**, IEEE Conf. on Computer Vision & Pattern Recognition (CVPR), 2015 (broke the previous record of corporate sponsorship funding with \$250K)
- **Corporate Relations Chair**, IEEE Conf. on Computer Vision & Pattern Recognition (CVPR), 2013 (broke the previous record of corporate sponsorship funding with \$120K)
- **Corporate Relations Chair**, IEEE Conf. on Computer Vision & Pattern Recognition (CVPR), 2012
- **Industrial Chair**, 12th Asian Conference on Computer Vision (ACCV), 2016
- **Industrial Chair**, European Conference on Computer Vision (ECCV), 2014
- **Industrial Chair**, IEEE International Conference on Computer Vision (ICCV), 2011
- **Program Chair**, SPIE Real-Time Imaging, 2003 to present
- **Program Chair**, Visual Communications & Image Processing, 2004
- **Advisory Board**, IAPR International Conference on Pattern Recognition (ICPR), 2010
- **USA Liaison**, IEEE Intelligent Vehicles Symposium (IV), 2009
- **Publicity Chair**, IAPR Asian Conference on Pattern Recognition (ACPR), 2013

#### Panelist Judge:

- **National Science Foundation, NSF**, Computer Vision, 2013
- **National Science Foundation, NSF**, Computer Vision, 2012
- **National Science Foundation, NSF**, Computer Vision, 2011
- **National Science Foundation, NSF**, Computer Vision, 2010
- **National Science Foundation, NSF**, Image Processing, 2008

#### Organizing Chair:

- IEEE Workshop on Deep Vision (with IEEE CVPR 2016)
- IEEE Workshop on Deep Vision (with IEEE CVPR 2015)
- IEEE Workshop on Deep Vision (with IEEE CVPR 2014)
- IEEE Workshop on Change Detection (with IEEE CVPR 2014)
- Workshop on My Car Has Eyes - Intelligent Vehicles with Vision Technology, (with ACCV 2014)
- 2nd International Workshop on Big Data in 3D Computer Vision (with ACCV 2014)
- IEEE Workshop on Visual Object Tracking - VOT (with IEEE ICCV 2013)
- IEEE Workshop on Big Data in 3D Computer Vision (with IEEE ICCV 2013)
- 9th IEEE Workshop on Perception Beyond the Visible Spectrum (with IEEE CVPR 2013)
- Special Session on Information Fusion for Fixed & Mobile Surveillance Applications (with IF 2013)
- Mini Symposium on Novel Approaches for Vision Applications (with SIAM 2013)
- IEEE Change Detection Workshop (with IEEE CVPR 2012)
- ICPR Contest on People Tracking in Wide Baseline Camera Networks (with ICPR 2012)
- IEEE Workshop on Modeling, Simulation and Visual Analysis of Large Crowds (with IEEE CVPR 2011)
- IEEE Online Learning for Computer Vision Workshop (with IEEE CVPR 2010)
- IEEE Online Learning for Computer Vision Workshop (with IEEE ICCV 2009)
- IEEE Online Learning for Classification Workshop (with IEEE CVPR 2008)
- IEEE Online Learning for Classification Workshop (with IEEE CVPR 2007)
- Special Session on Understanding of Dynamics in Complex and Cluttered Scenes (with ISVC 2007)

#### Program Committee:

##### **Conferences:**

- IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2005~2016
- IEEE International Conference on Computer Vision (ICCV) 2005, 2007, 2009, 2011, 2013, 2015
- European Conference on Computer Vision (ECCV) 2006, 2008, 2010, 2012, 2014
- IEEE Fusion, 2014
- International Conference on Pattern Recognition (ICPR), 2008, 2012
- International Symposium of Visual Computing (ISVC) 2005~2012, 2014
- International Conference on Image Analysis and Processing (ICIAP), 2012
- IEEE Conference on Advanced Video and Signal based Surveillance (AVSS) 2005~2009
- IEEE International Conference on Image Processing (ICIP) 2004, 2006~2008
- IEEE Conference on Intelligent Transportation Systems (ITS) 2006, 2007, 2008
- IEEE Intelligent Vehicles Symposium (IVS) 2004

##### **Workshops:**

- IEEE Large Scale 3D Point Cloud Workshop (with IEEE CVPR 2016)
- 2nd workshop on Diff-CVML (with IEEE CVPR 2016)
- International Workshop on Differential Geometry in Computer Vision for Analysis of Shapes, Images and Trajectories (DIFF-CV) 2015
- Workshop on Robust Subspace Learning and Computer Vision (with ICCV 2015)
- Workshop on Scene Background Modeling and Initialization (SBMI) 2015

- IEEE Workshop on Long Term Detection and Tracking (LTDT) 2014
- Workshop on Video Event Categorization, Tagging and Retrieval towards Big Data (VECATR), 2014
- Workshop on Computer Vision for Affective Computing (CV4AC) 2014
- IEEE Workshop on Performance Evaluation of Tracking Sys. (PETS) 2005~2008, 2012~2013
- 4th International Workshop on Socially Intelligent Surveillance and Monitoring (SISM) 2013
- IEEE Workshop on Object Tracking & Class. Beyond Visible Spectrum (OTCBVS) 2006~2010
- IEEE Workshop on Applications of Computer Vision (WACV) 2006, 2008~2010
- Visual Communications and Image Processing (VCIP) 2004, 2006, 2008, 2010
- IEEE Digital Image Computing: Techniques and Applications (DICTA) 2010
- IEEE Workshop on Video-Oriented Object and Event Classification (VOOEC) 2009
- International Workshop on Online Pattern Recognition and Machine Learning Techniques for Computer Vision Applications (OPRMLT) 2008
- IEEE Workshop on Motion and Video Computing (WMVC) 2008
- IEEE International Workshop on Mobile Multimedia Processing (WMMP) 2008
- IEEE Workshop on Multi-Camera and Multi-modal Sensor Fusion, (MCMMSF) 2008
- IEEE International Workshop on Multimedia Signal Processing (WMSP) 2008
- IS&T Image and Video Communications and Processing (IVCP) 2003, 2005

Session Chair (not updated after 2008):

- IEEE Intl. Conference on Advanced Video & Signal Based Surveillance (AVSS) 2006, Tracking Session
- IEEE International Conference on Image Processing (ICIP) 2006, Object Detection
- SPIE Real Time Imaging 2004-2008 Video Compression & Image Analysis Sessions
- IAPR Machine Vision Applications (MVA) 2005, Intelligent Transport Systems Session
- International Symposium of Visual Computing (ISVC) 2005, Autonomous Navigation
- IS&T Image & Video Communications Processing 2003, 2005, Video Scaling - Tracking
- IEEE International Conference on Image Processing (ICIP) 2003, Surveillance Video
- IEEE International Conference on Multimedia & Expo (ICME) 2002, 2003, 2005, Multimedia Analysis & Multi-Camera Systems Sessions

Journal Reviewer (not updated after 2013):

- IEEE Transactions on Pattern Analysis & Machine Intelligence, 2003~2013
- International Journal on Computer Vision (IJCV), 2012-2013
- IEEE Computer Society Pattern Recognition Letters, 2005~ 2008, 2010
- IEEE Transactions on Image Processing 2003~ 2010, 2012
- IEEE Transactions on Circuits & Systems for Video Tech., 1997~1998, 2002~2003, 2006~2010
- ACM Multimedia 2002, 2004, 2006, 2013, ACM Computer Applications in Health Care, 2003~2007

**PUBLICATIONS:** *(not full list)*

- **Book**, Handbook on Background Modeling and Foreground Detection for Video Surveillance, T. Bouwmans, F. Porikli, B. Hörferlin, A. Vacavant, CRC Press, Taylor and Francis Group, 2014
  - **Book**, Video Analytics for Business Intelligence, Springer, C. Shan, F. Porikli, T. Xiang, S. Gong, 2012
1. H. Zhu, F. Porikli, "Automatic refinement strategies for manual initialization of object trackers", IEEE Transaction on Image Processing (TIP), 2017 **(journal)**
  2. W. Wang, J. Shen, R. Yang, F. Porikli, "A unified spatiotemporal prior based on geodesic distance for video object segmentation", IEEE Transaction on Pattern Analysis and Machine Intelligence (PAMI), 2017 **(journal)**



3. S. H. Khan, X. He, F. Porikli, M. Bennamoun, "Forest change detection in incomplete satellite images with deep neural networks", IEEE Transaction on Geoscience and Remote Sensing (TGRS), 2017 **(journal)**
4. S. Anwar, F. Porikli, C. Huyhn, "Category-specific object image denoising", IEEE Transaction on Image Processing (TIP), 2017 **(journal)**
5. J. Shen, J. Peng, X. Dong, L. Shao, F. Porikli, "Higher-order energies for image segmentation", IEEE Transaction on Image Processing (TIP), 2017 **(journal)**
6. X. Yu, F. Porikli, "Face hallucination with tiny unaligned images by transformative discriminative neural networks", Thirty-First AAAI Conference on Artificial Intelligence (AAAI), 2017
7. P. Koniusz, Y. Tas, F. Porikli, "Domain adaptation by mixture of alignments of second- or higher-order scatter tensors", IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017
8. L. Pan, Y. Dai, M. Liu, F. Porikli, "Simultaneous stereo video deblurring and scene flow estimation", IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017
9. N. Akhtar, A. Mian, F. Porikli, "Joint discriminative Bayesian dictionary and classifier learning", IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017
10. X. Yu, F. Porikli, "Hallucinating very low-resolution unaligned and noisy face images by transformative discriminative autoencoders", IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017
11. S. Herath, M. Harandi, F. Porikli, "Learning an invariant Hilbert space for domain adaptation", IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017
12. J. Zhang, Y. Dai, F. Porikli, "Deep salient object detection by integrating multi-level cues", IEEE Winter Applications and Computer Vision Conference (WACV), 2017
13. J. Wang A. Cherian, F. Porikli, "Ordered pooling of optical flow sequences for action recognition", IEEE Winter Applications and Computer Vision Conference (WACV), 2017
14. H. Zhang, X. He, F. Porikli, "Learning spatial transforms for refining object segment proposals", IEEE Winter Applications and Computer Vision Conference (WACV), 2017
15. S. Khan, X. He, F. Porikli, M. Bennamoun, F. Sohel, R. Togneri, "Learning deep structured network for weakly supervised change detection", International Joint Conference on Artificial Intelligence (IJCAI), 2017
16. S. Anwar, Z. Hayder, F. Porikli, "Depth estimation and blur removal from a single out-of-focus image", British Machine Vision Conference (BMVC), 2017
17. S. Anwar, C. Huynh, F. Porikli, "Combined internal and external category-specific image denoising", British Machine Vision Conference (BMVC), 2017
18. X. Wang, H. Li, Y. Li, F. Shen, F. Porikli, "Robust and realtime deep tracking via multi-scale domain adaptation", IEEE International Conference on Multimedia and Expo (ICME), 2017
19. M. Zhao, J. Zhang, F. Porikli, C. Zhang, W. Zhang, "Learning a perspective embedded deconvolutional network for crowd counting", IEEE International Conference on Multimedia & Expo (ICME), 2017
20. X. Wang, H. Li, Y. Li, F. Porikli, M. Wang, "Deep tracking with objectness", IEEE International Conference on Image Processing (ICIP), 2017
21. J. Zhang, B. Li, Y. Dai, F. Porikli, M. He, "Integrated deep and shallow networks for salient object detection", IEEE International Conference on Image Processing (ICIP), 2017
22. F. Porikli, "Regression on Lie groups and its application to affine motion tracking", Advances in Computer Vision and Pattern Recognition - Riemannian Geometry in Machine Learning, Statistics, Optimization, and Computer Vision, Editors: Minh, Vittorio, Springer, 2016 **(book chapter)**
23. M. Kristan, R. Pflugfelder, J. Matas, A. Leonardis, F. Porikli, G. Nebehay, G. Fernandez and T. Vojir, L. Cehovin, "A novel performance evaluation methodology for single-target trackers", IEEE Transaction on Pattern Recognition and Machine Intelligence (PAMI), January, 2016 **(journal)**
24. H. Li, Y. Li, F. Porikli, "Convolutional neural net bagging for online visual tracking", Elsevier Journal on Computer Vision and Image Understanding (CVIU), 2016 **(journal)**
25. H. Li, Y. Li, F. Porikli, "DeepTrack: Learning discriminative feature representations online for robust visual tracking", IEEE Transactions on Image Processing (TIP), 2016 **(journal)**

26. B. Ma, L. Huang, J. Shen, L. Shao, M-H. Yang, and F. Porikli, "Visual tracking under motion blur", IEEE Transactions on Image Processing (TIP), 5(12):5867-5876, 2016 **(Journal)**
27. J. Shen, W. Wang, L. Shao, F. Porikli, "Saliency transfer: A correspondence based approach for saliency detection", IEEE Transactions on Image Processing (TIP), 2016 **(journal)**
28. G. Zhu, F. Porikli, H. Li, "Not all negatives are equal: Learning to track with multiple background clusters", IEEE Transactions on Circuits, Systems, and Video Technology (T-CSVT), 2016 **(journal)**
29. Q. Hu, S. Paisitkriangkrai, C. Shen, A. van den Hengel, F. Porikli. "Fast detection of multiple objects in traffic scenes with a common detection framework", IEEE Transactions on Intelligent Transportation Systems (T-ITS), 2016 **(journal)**
30. D. Liu, S. Wang, F. Porikli, "Spatial encoding of visual words for image classification", SPIE Journal of Electronic Imaging, 2016 **(journal)**
31. G. Zhu, F. Porikli, H. Li, "Beyond local search: tracking objects everywhere with instance-specific proposals", IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016
32. M. Harandi, M. Salzmann, F. Porikli, "When VLAD met Hilbert", IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016
33. X. Yu, F. Porikli, "Ultra resolving face images by discriminative generative networks", European Conference on Computer Vision (ECCV), 2016
34. P. Koniusz, A. Cherian, F. Porikli, "Tensor representations via kernel linearization for action recognition from 3D skeletons", European Conference on Computer Vision (ECCV), 2016
35. H. Zhou, J. Alvarez, F. Porikli, "Less is more: Towards compact CNNs", European Conference on Computer Vision (ECCV), 2016
36. T. Zhang, F. Porikli, "Sparse coding on cascaded residuals", Asian Conference on Computer Vision (ACCV), 2016 **(Best Student Paper)**
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## OTHER:

- Science fiction and retro-technology aficionado, US citizen