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# FATIH PORIKLI

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I have conceived, pitched, negotiated and delivered major computer vision projects to corporate and government clients. I have driven the creation of disruptive technologies and directly contributed to numerous products for a wide spectrum of industrial applications including physical security, satellite imaging, car navigation, medical systems, defense, consumer electronics, power systems and machine vision.

I understand how to create value through computer vision and have the technical skills to distinguish real capability from marketing hyperbole. My work reveals my abilities in delivering significant results in a complex environment and high technological complexity.

My leadership capability has been demonstrated through success as the leader of a major research group including line management of team leaders, researchers, senior researchers, and engineers. I have enjoyed building and working with highly capable computer vision and machine learning teams.

## HIGHLIGHTS:

- **IEEE Fellow** for contributions to computer vision and video surveillance, Computer Society
- Won the **R&D100 Award**, category: Scientist of the Year (select group of winners), 2006
- Won **4 Best Paper Awards**, nominated for 3 other awards
- Won **5 Professional Awards**
- Supervised **50+** PhD students
- Published **160+** papers that received **8500+** citations
- Google Scholar h-index: **42**, i10-index: **95**
- Inventor of **66** US patents (all granted)
- Associate Editor of **5** Journals (IEEE SPM: impact factor 6.0, SIIMS: rank 2/236 in applied math)
- Leading **Deep Learning** based research initiatives
- Contributed technology for a wide range of Mitsubishi Electric products with gross sales of \$1.1B

## WORK EXPERIENCE:

**September 2013 – present**      **Data61/CSIRO (was National ICT Australia, NICTA)**, Canberra, Australia  
*Leader, Computer Vision Research Group*

- Leading a group of 60+ researchers, research engineers, contributed faculty, and PhD students
- Managing \$2.4M+\$1.1M annual operating budget
- Setting the strategic direction and research agenda of the research group
- Helping the group to **triple** its scientific outcome
- Transitioning the group to adapt to new challenges and organizational structure changes
- Promoting a rewarding, innovative, enthusiastic, open-minded, and collaborative culture

**September 2013 – present**      **Australian National University (ANU), Canberra, Australia**  
*Professor, 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
- Teaching the *Engineering Data Analytics* course
- Designed a stimulating learning structure and convening Individual Projects course (153 students)
- Supervising 10 PhD students

**March 2000 – August 2013**      **Mitsubishi Electric Research Laboratories, Cambridge, MA**  
*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 **10+ 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, Harbor Monitoring, Stadium Multi-Camera System, HD Helicopter Television, MPEG Decoder IC
- Prepared **35 successful** project proposals (Corporate R&D), 1 final-tier ARDA proposal
- Brought in **\$3M+** in external funds and technically contributed to (partial list):
  - Multi-modal Multi-Sensor Data Enhancement, 2011~2012
    - Development of compressive sensing, fusion, super-resolution, denoising, deblurring
    - \$540K research funding, 5 patents
  - Object Detection, Classification & Tracking, 2005~2012
    - Development of advanced aerial, indoors, outdoors, vehicle surveillance systems
    - \$1.5M research funding, \$200M+ in total sales, 15 patents
  - Medical Data Analysis, 2006~2011
    - Design of nonintrusive tumor trackers for particle beam IGRT system
    - \$1M research funding, \$300M+ in total sales (projected), 7 patents
  - GIS, Aerial Video, Radar & Car Navigation, 2004~2012
    - Stabilization/tracking for aerial cameras/radars, compression for car navigation devices
    - \$1M research funding, \$600M+ in total sales (projected), 6 patents
  - Electronic Toll Collection, Driver Safety, Traffic Control, 2003, 2007, 2009
    - Camera sensor based traffic flow control & advanced electronic toll collection systems
    - \$500K research funding, \$100M+ in total sales, 2 patents

**May 1999 – March 2000**      **Hughes Research Laboratories, Malibu, CA**  
*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

July 1997 – August 1998

AT&T Bell Labs, Holmdel, NJ

Image Processing Group

- Developed boundary accurate 3D estimation methods that prevent surface singularities for low texture images by mesh patch matching for experimental 3D display
- Prepared a comprehensive formulation of psychometric aspects of 3D perception to reduce eye-strain

## TECHNICAL HIGHLIGHTS:

- 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 Transaction on Circuits, Systems, and Video Technology, 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 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 thorough 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 program; 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 Lecture, 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 RESPONSIBILITIES:

### Editor:

- **Associate Editor**, IEEE Signal Processing Magazine, 2011 to present (impact rate 6.0)
- **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 and Multimedia Analysis, 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 Systems, 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 for Surveillance, 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 Workshop on Applications in Computer Vision (WACV), 2013
- **Technical Program Chair**, IEEE Winter Applications and Computer Vision Conference (WACV), 2015
- **Technical Program Chair**, IEEE Conf. on 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:**

- **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. 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)**
2. 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)**
3. 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)**
4. H. Li, Y. Li, F. Porikli, "DeepTrack: Learning discriminative feature representations online for robust visual tracking", *IEEE Transactions on Image Processing (TIP)*, 2016 **(journal)**
5. 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)**
6. 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)**
7. 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)**
8. 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)**
9. D. Liu, S. Wang, F. Porikli, "Spatial encoding of visual words for image classification", *SPIE Journal of Electronic Imaging*, 2016 **(journal)**
10. 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
11. M. Harandi, M. Salzmann, F. Porikli, "When VLAD met Hilbert", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2016
12. X. Yu, F. Porikli, "Ultra resolving face images by discriminative generative networks", *European Conference on Computer Vision (ECCV)*, 2016
13. P. Koniusz, A. Cherian, F. Porikli, "Tensor representations via kernel linearization for action recognition from 3D skeletons", *European Conference on Computer Vision (ECCV)*, 2016
14. H. Zhou, J. Alvarez, F. Porikli, "Less is more: Towards compact CNNs", *European Conference on Computer Vision (ECCV)*, 2016
15. T. Zhang, F. Porikli, "Sparse coding on cascaded residuals", *Asian Conference on Computer Vision (ACCV)*, 2016
16. H. Zhang, X. He, F. Porikli, "Learning to generate object proposals with multi-modal cues", *Asian Conference on Computer Vision (ACCV)*, 2016
17. Y. Xie, F. Porikli, X. He, "Object-aware dictionary learning with deep features", *Asian Conference on Computer Vision (ACCV)*, 2016
18. G. Zhou, F. Porikli, H. Li, "Model-free multiple object tracking with shared proposals", *Asian Conference on Computer Vision (ACCV)*, 2016
19. M. Faraki, M. Harandi, F. Porikli, "Image set classification by symmetric positive semi-definite matrices", *IEEE Winter Applications and Computer Vision Conference (WACV)*, 2016
20. S. Wang, E. Zhu, J. Yin, F. Porikli, "Anomaly detection in crowded scenes by SL-HOF descriptor and foreground classification", *International Conference on Pattern Recognition (ICPR)*, 2016
21. A. Mukhopadhyay, S. Bhandarkar, F. Porikli, "Detection and characterization of intrinsic symmetry of 3D shapes", *International Conference on Pattern Recognition (ICPR)*, 2016
22. Y. Wang, Y. Li, F. Porikli, "Fine-tuning convolutional neural networks for visual aesthetics", *International Conference on Pattern Recognition (ICPR)*, 2016
23. G. Zhu, F. Porikli, H. Li, "Robust visual tracking with deep convolutional neural network based object proposals on PETS", *IEEE Workshop on Performance Evaluation of Tracking Systems (PETS) in conjunction with CVPR*, 2016
24. H. Zhang, X. He, F. Porikli, L. Kneip, "Semantic context and depth-aware object proposal generation", *IEEE International Conference on Image Processing (ICIP)*, 2016

25. K. Kurihara, Y. Toyoda, S. Moriya, D. Suzuki, T. Fujita, N. Matoba, J. Thornton, F. Porikli, "Light-weight single image super-resolution via pattern-wise regression function", Image Processing: Algorithms and Systems XIV, Electronic Imaging, 2016
26. S. Herath, M. Harandi, F. Porikli, "Going deeper into action recognition: A survey", arXiv:1605.04988, 2016
27. M. Felsberg, A. Berg, G. Hager, ..., F. Porikli, ... "The thermal infrared visual object tracking VOT-TIR2015 results, IEEE Workshop on Video Object Tracking in conjunction with ICCV, 2015
28. M. Kristian, J. Matas, A. Leonardis, ..., F. Porikli, ... "The visual object tracking VOT2015 challenge Results", IEEE Workshop on Video Object Tracking, in conjunction with CVPR, 2015
29. S. Anwar, C.P. Huynh, F. Porikli, "Class-specific image deblurring", IEEE International Conference on Computer Vision (ICCV), December, 2015
30. B. Ma, H. Hu, J. Shen, Y. Zhang, F. Porikli, "Linearization to nonlinear learning for visual tracking", IEEE International Conference on Computer Vision (ICCV), December, 2015
31. M. Faraki, M. Harandi, F. Porikli, "More about VLAD: A leap from Euclidean to Riemannian manifolds", IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2015
32. S. Shen, W. Wang, F. Porikli, "Saliency-aware geodesic video object segmentation", IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2015
33. X. Shu, F. Porikli, N. Ahuja, "Robust orthonormal subspace learning (ROSL)", Handbook on Robust Low-Rank and Sparse Matrix Decomposition: Applications in Image and Video Processing, Editors: T. Bouwmans, N. Aybat, E. Zahzah, CRC Press, Taylor and Francis Group, 2015 (**book chapter**)
34. W. Wang, J. Shen, X. Li, F. Porikli, "Robust video object cosegmentation" IEEE Transactions on Image Processing (TIP), volume: 24, issue: 10, 2015 (**journal**)
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**OTHER:**

- Science fiction, ancient Egyptian history, retro-technology aficionado.