FATIH PORIKLI

http://www.porikli.com fatih.porikli@gmail.com 408-832-6766

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 autonomous vehicles, mobile phones, AR/VR, video surveillance, fingerprint and face ID, driver monitoring systems, consumer electronics, industrial inspection, radiotherapy, satellite imaging, and defense solutions. I understand how to create value through analyzing visual/multi-modal data and have the technical skills to deliver impactful results in complex environments.

I built and led highly functional R&D teams that exceeded expectations. I line-managed project leaders, senior researchers, business managers, software developers, engineers, designers, interns, and contractors. I am acting as a technical leader as well as a hands-on manager and individual contributor.

HIGHLIGHTS:

- **IEEE Fellow** for contributions to **computer vision** and video surveillance (Computer Society)
- Winner of the **R&D100 Award**, category: Scientist of the Year (select group of winners), 2006
- Directly contributed technology for multiple products, lead teams of **100+** researchers and engineers
- Won **8** Best Paper Awards, **8** Professional Awards
- Google Scholar h-index: **86**, i10-index: **296**, inventor of **150+** US patents
- Published **350+** papers that received ~**35,000** citations (**90+** journals, **100+** CVPR/top AI conferences)
- Associate Editor of journals (IEEE **TMM**, IEEE **TNNLS**, IEEE **SPM**, IEEE **TCSVT**, Springer **MVA**)
- World-leading expert in **Generative AI, ML,** and **Deep Learning**
  - Showcased world's fastest diffusion-based content generators on mobile NSPs, leading generative AI companywide, expert in LLM, VLM, inversion, multi-modal foundation models, LoRAs, adaptors, VAEs, GAN, CNN, LSTM, NAS, efficient transformers and architectures
  - Applied AI to image/video classification, segmentation, object detection, tracking, saliency, enhancement, neural compression, super-resolution, denoising, deblurring, stylization, aesthetics, personalization, domain adaptation, 3D depth, pose estimation, activity recognition, action localization, zero/few-shot, self/semi/un/supervised/on-device learning, change detection, visual positioning, always-on, ASR, TTS, voice cloning, and more
  - Area Chair of deep learning tracks, organizer of deep learning workshops at premier confs
  - I implemented code in C++, python, Matlab, and AI models with TensorFlow/pyTorch libs

WORK EXPERIENCE:

2019 – Present **Qualcomm,** San Diego, CA, USA
Senior Director of Technology, Global AI Systems Lead, Qualcomm AI Research

- Directing multiple research teams in three continents & four city centers (100+ team, 10+ team leads)
- Leading product-oriented efficient / robust AI projects for multi-modal (image, 3D, RF, GNSS, audio), multi-sensor (camera, radar, LiDAR, ToF, WiFi/5G), mobile/cloud platforms for auto, XR, IoT, VPS
- Spearheading generative AI model innovation and actualization with LLMs and VLMs
- Setting and tracking research and development agenda, strategic direction, engineering, software development, data collection, technology transfer, IP creation, received IP Award
- Promoting a rewarding, innovative, enthusiastic, forward-looking, and collaborative culture in company

2016 – 2019 **Futurewei (Huawei USA),** San Diego, CA, USA
Technical Vice President, CBG Device & Hardware, Computer Vision Lab (2017 – 2019)
Chief Scientist, Innovation of Vehicles & Media Technologies Lab, San Jose, (2016 – 2017)

- Acted as a leader as well as an individual contributor of technical innovations
- Led all aspects of product oriented special projects. Latest focus is on mobile phones (AR/VR and camera technologies). Led autonomous vehicles (ADAS and driver monitoring) in North America. All projects leverage on deep learning. Deep models are transported to mobile platforms (e.g. NPUs)
- Set the vision, strategic direction, and technical agenda of the lab as well as the projects
- Directed a team of **20** engineers, operating $5M annual budget, performance managing all, recruiting
- Managed day-to-day operations including research, engineering, code development, code review
- Evaluated the technical capabilities of startup companies for potential partnerships and joint ventures
- Led IP committees and patent reviews

2013 – 2020 **Australian National University (ANU),** Canberra, Australia
Professor (Full & Tenured), Research School of Engineering

- Achieved **100%** grant acceptance rate, established a lab of 3 research fellows and 15 PhD students
- Won Australian Renewable Energy Grant on Robotic Visual Inspection of Solar Plants, $3,081K
- Won ARC Discovery Grant 2015, Semantic Vectorization, $374K
- Taught "Engineering Data Analytics" course
- Led perception research for autonomous vehicles (ground/air)

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 $3.5M 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

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

- Managed project 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 updated since 2017)

- Designed the entire software architecture and data flow processes that achieves very efficient multi-task learning and task execution for computer vision pipelines of **mobile phones**. Led development of very-fast and joint scene labeling, human segmentation, human pose estimation, object recognition, object tracking, text detection, motion and 6 DoF pose estimation, image translation, image classification, privacy labeling, few-shot learning and recognition, VPS, and similar modules that were integrated in mobile phone CV engines designed to support universal CV app store and **AR/VR**.
- Invented efficient, accurate single-image / video super-resolution AI methods for 2x~8x upsampling.
- Led research and engineering of **ADAS and driver monitoring** features such as 3D reconstruction, vehicle/VRU detection, object tracking, traffic sign recog, navigable road segmentation, face detection, gaze direction estimation, head pose estimation, fatigue estimation, activity detection to count a few.
- Forerunning **deep learning** research initiatives: invented the world-first deep learning based object tracker, developed the state-of-the-art deep learning based image super-resolution (4x~8x) solutions, developed numerous CNN, RNN, LSTM, GAN 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, served as the co-editor of "Deep Learning for Video Surveillance" Special Issue of IEEE T-CSVT, served as the Area Chair in deep learning at flagship CV, ML, and AI 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 $O(M^4 x^M)$ 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, 2014
- Asia-Pacific Artificial Intelligence Association (AAIA) **Fellow**, 2023
- **R&D100 Award**, category: Scientist of the Year (select group of winners), 2006
- **MVA Test-of-Time Best Paper of the Decade Award,** Journal of Machine Vision Applications, 2019
- **Top Ranking High Value Innovation Award & Cash Prize,** Huawei, 2018
- **Best Paper Finalist,** WACV 2023
- **Best Demo Honorable Mention,** CVPR 2022
- **Best Paper,** Embedded Vision Workshop, CVPR 2021
- **Honorable Mention,** Elsevier Pattern Recognition Journal, 2020
- **Honorable Mention (2nd Best),** NTIRE 2019 Video Super-Resolution Challenge, 2019
- **Best Paper on Deep/Machine Learning**, APSIPA 2017
- **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
- **Best Paper Award nomination** (out of 250 papers), IEEE AVSS 2009
- **Best Paper Award nomination** (out of 900 papers), IEEE ICME 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 Reviewer,** ICCV 2019
- 5 and 10 years of **High Achievement Awards** by MERL 2005, 2010
- **Top 0.005%** in the National University Entrance Exam
- Ranked **32nd 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

1992 **B.S. Electrical Engineering**
Bilkent University, Ankara, TR. Advisor Prof Levent Onural (IEEE Fellow)

TALKS: (not up-to-date)

Invited Talk: "Efficient Video Perception", Embedded Vision Symposium, 2021
Keynote: "Statistical Representations for Domain Adaptation", IEEE Workshop Scarce Data, 2020
Interview: "Deep Learning", IEEE Spectrum Magazine, 2016
Lecture: "Data driven learning", Robotic Vision Summer School, 2016
Ask the Experts Panel, IEEE Spectrum Magazine, 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 Transactions on Neural Networks and Learning Systems, 2018 to present
- **Associate Editor**, IEEE Transactions on Multimedia, 2017 to present
- **Associate Editor**, Journal of Machine Vision Applications, Springer, 2006 to present
- **Associate Editor**, Journal of Real-Time Image and Video Processing, Springer, 2004 to present
- **Associate Editor**, IEEE Signal Processing Magazine, 2011 to 2018 (impact rate 6.0)
- **Associate Editor**, SIAM Imaging Sciences, 2011 to 2017 (rank 2 / 236 in applied math)
- **Associate Editor**, EURASIP Journal of Image & Video Processing, 2011 to 2016

- **Lead Guest Editor,** IEEE T-CSVT, Special Issue on Deep Learning for Video Surveillance, F. Porikli, L. Davis, Q. Wang, Y. Li, 2019
- **Lead Guest Editor,** IEEE Signal Processing Magazine, Special Issue on Deep Learning for Visual Understanding, F. Porikli, S. Shan, C. Snoek, R. Sukthankar, X. Wang, 2018
- **Lead 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 Journal of Selected Topics in Signal Processing, Special Issue on Tensor Decomposition for Signal Processing and Machine Learning, H. Chen, S. Vorobyov, H.C. So, F. Ahmad, F. Porikli, 2020
- **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. Hwang, 2017
- **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 2013-2016 (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), 2024
- **Area Chair,** IEEE International Conference on Computer Vision (ICCV), 2023
- **Area Chair,** IEEE Winter Applications and Computer Vision Conference (WACV), 2023
- **Area Chair,** European Conference on Computer Vision (ECCV), 2022
- **Area Chair,** IEEE International Conference on Computer Vision (ICCV), 2021
- **Area Chair**, IEEE Conf. on Computer Vision & Pattern Recognition (CVPR), 2021
- **Area Chair,** AAAI Conference on Artificial Intelligence (AAAI), 2021
- **Area Chair,** IEEE International Conference on Image Processing (ICIP), 2021
- **Area Chair,** IEEE International Conference on Image Processing (ICIP), 2020
- **Area Chair,** IEEE International Conference on Image Processing (ICIP), 2019
- **Area Chair,** IEEE/RSJ International Conference on Intelligent Robots (IROS), 2018
- **Area Chair,** IEEE International Conference on Robotics and Automation (ICRA), 2018
- **Area Chair,** IEEE Winter Applications and Computer Vision Conference (WACV), 2017
- **Area Chair,** IEEE/RSJ International Conference on Intelligent Robots (IROS), 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)
- **Corporate Relations Chair,** IEEE Conf. on Computer Vision & Pattern Recognition (CVPR), 2013
- **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:

- **IEEE, Computer Society,** Fellow Evaluation Committee, 2023
- **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

Workshop Organizing Chair & Committees:

- IEEE Workshop on Omnidirectional Computer Vision (with CVPR 2023)
- IEEE Workshop on Wireless AI Perception - WAIP (with CVPR 2022)
- International Workshop on Manifold Learning: from Euclid to Riemann 2017 (with ICCV 2017)
- IEEE Workshop on Tensor Methods in Computer Vision 2017 (with CVPR 2017)
- IEEE Deep Vision Workshop 2016 (CVPR 2016)
- IEEE Large Scale 3D Point Cloud Workshop (with CVPR 2016)
- 2nd IEEE Workshop on Diff-CVML 2016 (with CVPR 2016)
- IEEE Deep Vision Workshop 2015 (with CVPR 2015)
- International Workshop on Differential Geometry in Computer Vision for Analysis of Shapes, Images, and Trajectories (DIFF-CV) 2015
- IEEE Workshop on Robust Subspace Learning and Computer Vision (with ICCV 2015)
- IEEE Workshop on Scene Background Modeling and Initialization (SBMI) 2015
- IEEE Deep Vision Workshop 2014 (with CVPR 2014)
- IEEE Change Detection Workshop and Challenge 2014 (with CVPR 2014
- IEEE Workshop on My Car Has Eyes - Intelligent Vehicles with Vision Tech (with ACCV 2014)
- IEEE Workshop on Long Term Detection and Tracking (LTDT) 2014 (with CVPR 2014)
- 2nd International Workshop on Big Data in 3D Computer Vision (with ACCV 2014)
- International Workshop on Video Event Categorization, Tagging, and Retrieval towards Big Data (VECaTR), 2014
- International Workshop on Computer Vision for Affective Computing (CV4AC) 2014
- IEEE Visual Object Tracking - VOT 2013 (with ICCV 2013)
- IEEE Workshop on Big Data in 3D Computer Vision 2013 (with ICCV 2013)
- IEEE Workshop on Perception Beyond the Visible Spectrum 2013 (with CVPR 2013)
- IEEE Workshop on Performance Evaluation of Tracking Systems (PETS) 2013
- Special Session on Information Fusion for Fixed & Mobile Surveillance Applications (with IF 2013)
- 4th International Workshop on Socially Intelligent Surveillance and Monitoring (SISM) 2013
- IEEE Change Detection Workshop and Challenge 2012 (with IEEE CVPR 2012)
- IAPR Workshop and Contest on People Tracking in Wide Baseline Camera Networks (with ICPR 2012)
- IEEE Workshop on Performance Evaluation of Tracking Systems (PETS) 2012
- IEEE Workshop on Modeling, Simulation, Visual Analysis of Large Crowds 2011 (CVPR 2011)
- IEEE Online Learning for Computer Vision Workshop 2010 (with IEEE CVPR 2010)
- IEEE Workshop on Object Tracking & Classification Beyond Visible Spectrum (OTCBVS) 2010
- IEEE Online Learning for Computer Vision Workshop 2009 (with IEEE ICCV 2009)
- IEEE Workshop on Object Tracking & Classification Beyond Visible Spectrum (OTCBVS) 2009
- IEEE Workshop on Video-Oriented Object and Event Classification (VOOEC) 2009
- IEEE Online Learning for Computer Vision Workshop 2008 (with IEEE CVPR 2008)

- IEEE Workshop on Performance Evaluation of Tracking Systems (PETS) 2008
- IEEE Workshop on Object Tracking & Classification Beyond Visible Spectrum (OTCBVS) 2008
- 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
- IEEE Online Learning for Computer Vision Workshop 2007 (with IEEE CVPR 2007)
- IEEE Workshop on Performance Evaluation of Tracking Systems (PETS) 2007
- Special Session on Understanding of Dynamics in Complex and Cluttered Scenes (with ISVC 2007)
- IEEE Workshop on Performance Evaluation of Tracking Systems (PETS) 2006
- IEEE Workshop on Object Tracking & Classification Beyond Visible Spectrum (OTCBVS) 2006 (with IEEE CVPR 2006)
- IS&T Image and Video Communications and Processing (IVCP) 2003, 2005

Conference Program Committee:

- IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2005~2020
- IEEE International Conference on Computer Vision (ICCV) 2005~2019
- International Conference on Learning Representations (ICLR) 2020
- European Conference on Computer Vision (ECCV) 2006~2014, 2018
- IEEE International Conference on Image Processing (ICIP) 2004, 2006~2008, 2016~2019
- 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 Conference on Intelligent Transportation Systems (ITS) 2006, 2007, 2008
- Visual Communications and Image Processing (VCIP) 2004, 2006, 2008, 2010
- IEEE Intelligent Vehicles Symposium (IVS) 2004

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: (this list is not complete, 60+ of my recent papers are not listed here, please see my Google Scholar profile for most recent ones)

- **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. S. Minaee, Y. Boykov, F. Porikli, A. Plaza, N. Kehtarnavaz, D. Terzopoulos, Fellow, “Image segmentation using deep learning: A survey”, IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2021 **(Journal)**
2. H. Chen, F. Ahmad, S. Vorobyov, F. Porikli, “An overview of tensor decompositions in wireless communication and MIMO radar”, IEEE Journal of Selected Topics in Signal Processing (STSP), 2021 **(Journal)**
3. H. Anwar, S. Anwar, S. Zambanini, F. Porikli, “Deep ancient Roman Republican coin classification via feature fusion and attention”, Elsevier Pattern Recognition (PR), 2021 **(Journal)**
4. S. Anwar, Z. Hayder, F. Porikli, “Deblur and deep depth from single defocus image”, Machine Vision and Applications Journal (MVAP), 2021 **(Journal)**
5. S. Borse, Y. Wang, Y. Zhang, F. Porikli, “InverseForm: A loss function for structured boundary-aware segmentation”, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021
6. J. Lin, P. Noorzad, Y. Yang, N. Kwak, F. Porikli, “Phase shift convolutions”, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Workshop ECV, 2021 **(Best Paper)**
7. S. Rahman, S. Khan, F. Porikli, “Zero-shot object detection: joint recognition and localization of novel concepts”, International Journal of Computer Vision (IJCV), 2020 **(Journal)**
8. X. Dong, J. Shen, W. Wang, L. Shao, H. Ling, F. Porikli, “Dynamical hyperparameter optimization via deep reinforcement learning in tracking”, IEEE Transaction on Pattern Analysis and Machine Intelligence (PAMI), 2020 **(Journal)**
9. X. Yu, F. Shiri, B. Ghanem, F. Porikli, “Can we see more? Joint frontalization and hallucination of unaligned tiny faces”, IEEE Transaction on Pattern Analysis and Machine Intelligence (PAMI), 2020 **(Journal)**
10. G. Zhang, F. Porikli, H. Sun, Q.Sun, G. Xia, Y. Zheng, “Cost-sensitive joint feature and dictionary learning for face recognition”, Elsevier Neurocomputing, 2020 **(Journal)**
11. Y. Zheng, H. Yao, X. Sun, S. Zhang, S. Zhao, F. Porikli, “Sketch-specific data augmentation for freehand sketch recognition”, Elsevier Neurocomputing, 2020 **(Journal)**
12. M. Nasser, S. Khan, M. Hayat, F. Khan, F. Porikli, “A self-supervised approach for adversarial robustness”, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020
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