

François Fleuret

Born January 10, 1972, in Versailles, France.

Citizenships: Switzerland, France.

Married, two children (born 2008, 2016).

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Research interests

Statistical learning, deep learning, pattern recognition.

Employment

Since August 2007

Senior researcher, head of the Machine Learning group, Idiap Research Institute, Switzerland. **Maître d'Enseignement et de Recherche**, School of Engineering, EPFL since March 2011.

January 2004 – July 2007

Senior researcher, EPFL, CVLab research group, Switzerland.

October 2001 – December 2003

Researcher, INRIA, France (permanent position *Chargé de Recherche*).

July 2001 – September 2001

Post-doctoral position, EPFL, LCN research group, Switzerland.

September 2000 – June 2001

Post-doctoral position, University of Chicago, Department of Computer Science, USA.

Education

Habilitation degree in Mathematics, University of Paris XIII, 2006. “Generative Models and Algorithmic Efficiency for Prediction.”

PhD in Mathematics, INRIA / University of Paris VI, 2000. “Coarse-to-fine Face Detection” under the supervision of Prof. D. Geman. Special honor *Mention très honorable avec les félicitations du Jury*.

Master's degree in Probability (*Diplôme d'Études Approfondies*), University of Paris VI, **Master's degree in Computer Science and Mathematics** (*Magistère de Mathématiques Fondamentales et Appliquées et d'Informatique*), École Normale Supérieure de Paris and University of Paris VI, 1995.

Teaching

2018

EE-559: Deep Learning (56h, number of students to be defined), EPFL.

2015, 2017

EE-613: Machine Learning for Engineers in collaboration with S. Calinon and J-M. Odobez (20h, 35 students), EPFL.

2013

EE-613: Machine Learning for Engineers in collaboration with R. Collobert and J-M. Odobez (20h, 12 students), EPFL.

2010, 2011

CS-607: Machine Learning in collaboration with Prof. A. Billard (22h per year, 20+ students), EPFL.

2008

CS-607: Machine Learning in collaboration with Prof. A. Billard and Prof. W. Gerstner (12h, 20+ students), EPFL.

2007

CS-445: Foundations of image science in collaboration with J. Pilet (28h, 30+ students), EPFL.

IC-49: Machine Learning (guest lecture, 4h, 30+ students), EPFL.

2005, 2006

Introduction to C++ (bachelor level, 56h per year, 80+ students), EPFL.

2001

CS-250: Computer vision in collaboration with Prof. Y. Amit (15h, 20+ students), University of Chicago.

CS-116: Introduction to C++ (30h, 50+ students), University of Chicago.

1998, 1999, 2000

Undergraduate exercise sessions in statistics (28h per year, 30+ students) and in **computer programming** (56h per year, 30+ students), University of Paris Dauphine.

1993, 1994

Undergraduate Pascal programming class, (50h per year, 20+ students), *Classe Préparatoire*, Lycée Buffon, Paris.

Grants and industrial collaborations

By default, the amounts listed below correspond to funding under my direct management. Figures highlighted with * are overall budgets of multi-partner projects, and those highlighted with † were under my scientific co-management.

- **Principal investigator** of a grant from the Loterie Romande for a Deep-learning GPU cluster (120k CHF[†]), 2017.
- **Beneficiary** of a Research gift from the HSA foundation for work on high-performance computing with GPUs (72k CHF), 2017.
- **Principal investigator** of the Hasler Foundation grant “Multi-view Detection with Metric-Learning for Deep Network Fusion” (118k CHF), 2017-2019.
- **Principal investigator** of the Swiss National Science Foundation grant “Importance sampling for Large-Scale Unsupervised Learning” (375k CHF), 2017–2019.
- **Principal investigator** of the Hasler Foundation grant “Massive Sets of Heuristics for Machine Learning II” (293k CHF), 2013–2017.
- **Principal investigator** of the Swiss Commission for Technology and Innovation grant “Intelligent Monitoring for In-line Manufacturing” (267k CHF), 2016–2017
- **Principal investigator** of the Swiss National Science Foundation grant “Tracking in the Wild” (331k CHF / 995k CHF*), 2014–2017.
- **Co-investigator** of the Swiss Commission for Technology and Innovation grant “Convenient and Secure 3D Face Recognition based on RGB-D Cameras” (175k CHF / 350k CHF*), 2016–2017
- **Principal investigator** of the Swiss National Science Foundation grant “Object Detection with Active Sample Harvesting” (226k CHF), 2012–2016.
- **Principal investigator** of an ARK grant on Face Alignment using RGB-D Cameras in collaboration with KeyLemon (130k CHF), 2015.
- **Principal investigator** of the Swiss Commission for Technology and Innovation grant “Real-time Perimeter Board Content Digital Replacement” in collaboration with E.S. Concept S.A. (366k CHF), 2015–2016.
- **Principal investigator** of an ARK grant on advertisement replacement in video streams in collaboration with E.S. Concept S.A. (87k CHF), 2014.
- **Principal investigator** of an ARK grant in collaboration with Automation Industrielle S.A. (115k CHF), 2013.
- **Principal investigator** of the Hasler Foundation grant “User-Based Similarity Learning for Interactive Image Retrieval” (39k CHF), 2012–2013.
- **Principal investigator (coordinator)** of the FP7 European project “Massive Sets of Heuristics for Machine Learning” (650k CHF / 2.5m CHF*), 2010–2013.
- **Co-investigator** of the Swiss Commission for Technology and Innovation grant, “Image-Based Object Tracking and Identification in Team Sports Environments” (187k CHF[†]), 2011–2013.

- **Principal investigator** of the Swiss National Science Foundation grant “Very Large Sets of Heuristics for Scene Interpretation” (215k CHF), 2009–2013.
- **Co-investigator** of the Swiss National Science Foundation grant “Understanding Brain Morphogenesis” (150k CHF / 1.2m CHF*), 2009–2012.
- **Co-investigator** of the Swiss National Science Foundation grant “Multimodal Interaction and Multimedia Data Mining” (82k CHF / 1.2m CHF*), 2008–2011.
- **Co-investigator** of the Swiss National Science Foundation grant “Training Embedded Visions Systems” (130k CHF[†]), 2007–2011.
- **Co-investigator** of the Swiss National Science Foundation grant “View Sets for 3-D Object Detection and Recognition” (125k CHF[†]), 2005–2009.

Services

- **Associate Editor**, IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), since 2012.
- **Area Chair**, Conference on Neural Information Processing Systems (NIPS), 2012, 2014, 2016, 2017.
- **Member** of the Electrical Engineering Doctoral Program Committee, École Polytechnique Fédérale de Lausanne, since 2015.
- **Area Chair**, IEEE International Conference on Computer Vision (ICCV), 2015.
- **Expert** for the Belgian Science Policy, 2016, the Swiss National Science Foundation, 2014, the Austrian Science Fund, 2009, 2014, the Netherlands Organization for Scientific Research, 2013, the French National Research Agency, 2007, 2012, and the Research Council of the Academy of Finland, 2009.
- **Site manager** for the PASCAL 2 Network of Excellence, 2008–2013.
- **Co-organizer** of the NIPS Workshop on Efficient Machine Learning, 2007.
- **Member** of the INRIA post-doctoral grant commission, 2002, 2003.

Dissemination

- Invited to the radio show CQFD, Swiss Public Radio, 2017. “Des réseaux neuronaux contre la myopie des télescopes.”
- Presentation to high school students “Semaine technique et informatique”, Lycée Denis-de-Rougemont (Neuchâtel, CH), 2017. “L’intelligence artificielle.”
- Organizer of the “Deep Learning, Tools and Methods” workshop, Idiap, ~250 attendees from academic and private sector over three days (45k CHF budget, Martigny, CH), 2016
- Principal organizer of the “Swiss Machine Learning Day”, EPFL, ~100 attendees (Lausanne, CH), every year since 2012.
- Public debate, Association Cèdres Réflexion, Espace Culturel des Terreaux (Lausanne, CH), 2015. “L’Humain est-il machine ou esprit ?”

- Seminar “Mathématiques et Société”, University of Neuchâtel (Neuchâtel, CH), 2009. “Statistiques, apprentissage et prédiction.”

Invitations

- Invited speaker, Deep Learning Workshop, Google Office, (Zurich, CH), 2017. “Kronecker Recurrent Units.”
- Invited speaker, Applied Machine Learning Days, EPFL, (Lausanne, CH), 2017. “Semi-supervised learning of Deep Metrics for Stereo Reconstruction.”
- Invited speaker, Geomatics seminar, ETHZ, (Zurich, CH), 2016. “Training models with Sample Prioritization.”
- Invited speaker, Computer Science seminar Royal Holloway, University of London, (Egham, UK), 2016. “Multi-camera, multi-target tracking.”
- Invited speaker, Swiss Photonics workshop, (Neuchâtel, CH), 2016. “Exact Acceleration of Linear Object Detectors.”
- Visiting Associate, Vision Lab, Caltech (Pasadena, USA), Summers 2006, 2007, 2012, 2015.
- Keynote speaker, ECCV Workshop on Visual Object Tracking Challenge (Zurich, Switzerland), 2014. “Multi Person Tracking.”
- Invited speaker, Robotics Research Group Seminar, Oxford (Oxford, UK), 2013. “Object detection with pose-indexed features.”
- Keynote speaker, Workshop of the Austrian Association for Pattern Recognition (Innsbruck, Austria), 2013. “Boosting in large dimension feature spaces”
- Invited speaker, Human Activity and Vision Summer School, INRIA (Sophia-Antipolis, France), 2012. “Multi-person tracking.”
- Invited speaker, Machine Learning Summer School, Purdue University (West Lafayette, USA), 2011. “The MASH project.”
- Invited speaker, Workshop on Validation in Statistics and Machine Learning, WIAS (Berlin, Germany), 2010. “The MASH project.”
- Invited speaker, Vision seminar, University College London (London, UK), 2008. “Cat detection with stationary features.”
- Invited speaker, Workshop in Honor of Donald Geman 65th birthday, Johns Hopkins University (Baltimore, USA), 2008. “Learning and object Detection: From decision trees to stationary features.”

Phd supervisions

Ongoing

- Suraj Srinivas, **PhD supervision** on learning deep structures from data (IDIAP).

- Angelos Katharopoulos, **PhD supervision** on importance sampling for large-scale training (IDIAP).
- Stepan Tulyakov, **PhD supervision** on planet surface 3D reconstruction from stereo images (EPFL).
- Tatjana Chavdarova, **PhD supervision** on multi-camera detection with deep learning (IDIAP).
- Pierre Baqué, **PhD co-supervision** with Prof. Pascal Fua on Variational Inference for detection (EPFL).
- Cijo Jose, **PhD supervision** on transfer learning for small-set appearance recognition (IDIAP).
- Timur Bagautdinov, **PhD co-supervision** with Prof. Pascal Fua on multi-camera tracking (EPFL).
- James Newling, **PhD supervision** on computationally efficient learning in high dimension (IDIAP).

Awarded

- Olivier Canévet, **PhD supervision** on active harvesting of training sets (IDIAP), 2016.
- Leonidas Lefakis, **PhD supervision** on prediction and action selection with very large feature sets (IDIAP), 2014.
- Horesh Ben Shitrit, **PhD co-supervision** with Prof. Pascal Fua on multi-camera tracking, (EPFL), 2014.
- Charles Dubout, **PhD supervision** on object detection with very large feature sets (IDIAP), 2013.
- Nicolae Suditu, **PhD supervision** on large-scale interactive image retrieval (IDIAP), 2013.
- Karim Ali, **PhD co-supervision** with Prof. Pascal Fua on hand detection in industrial environment (EPFL/CSEM), 2012.
- Germán González Serrano, **PhD co-supervision** with Prof. Pascal Fua on filament reconstruction (EPFL), 2011.
- Jérôme Berclaz, **PhD co-supervision** with Prof. Pascal Fua on multi-camera people tracking (EPFL), 2010.
- Ali Shahrokni, **PhD co-supervision** with Prof. Pascal Fua on texture segmentation (EPFL), 2005.

Patents

- Co-inventor of the **international patent application** WO2016055924 and **European patent application** EP3006391-A1 “Method for directing tube components.”
- Co-inventor of the **US patent** US20140089365 “Object detection method, object detector and object detection computer program.”

- Co-inventor of the **international patent** WO2013072401 “Tracklet-based Multi-Commodity Network Flow for Tracking Multiple People.”
- Co-inventor of the **US patent** US20130177200 “A method and apparatus for multiple object tracking with k-shortest paths.”

Software

- Author of the **Multiple Tracked Paths**, the **Folded Hierarchy of Classifiers**, the **Probabilistic Occupancy Map**, and the **Conditional Mutual Information Maximization** feature selection algorithm, under GPL3.
- Author of a **fast face detector**, registered at the French Agency for Software Protection (APP) under the reference IDDN.FR.001.200015.000.S.P.2002.000.21000.
- Co-author of the **image indexing platform “Maestro”**, registered under the references IDDN.FR.001.510012.000.S.P.2002.000.21000 (server) and IDDN.FR.001.510009.000.S.P.2002.000.21000 (client).

Publications

Book chapters

F. Fleuret, H. Ben Shitrit, and P. Fua. **Re-Identification for Improved People Tracking**. In S. Gong, M. Cristani, Y. Shuicheng, and C. C. Loy, editors, *Person Re-Identification*, pages 311–336. Springer, 2014

Peer-reviewed Journal Articles

S. Tulyakov, A. Ivanov, N. Thomas, V. Roloff, A. Pommerol, G. Cremonese, T. Weigel, and F. Fleuret. **Geometric calibration of Colour and Stereo Surface Imaging System of ESA's Trace Gas Orbiter**. *Advances in Space Research*, 2017. (To appear)

R. Lefort, L. Fusco, O. Pertz, and F. Fleuret. **Machine learning-based tools to model and to remove the off-target effect**. *Pattern Analysis and Applications (PAA)*, 20(1):87–100, 2017

L. Lefakis and F. Fleuret. **Jointly Informative Feature Selection Made Tractable by Gaussian Modeling**. *Journal of Machine Learning Research (JMLR)*, 17(182):1–39, 2016

X. Wang, E. Turetken, F. Fleuret, and P. Fua. **Tracking Interacting Objects Using Inter-twined Flows**. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 38(11):2312–2326, 2016

L. Fusco, R. Lefort, K. Smith, F. Benmansour, G. Gonzalez, C. Barilari, B. Rinn, F. Fleuret, P. Fua, and O. Pertz. **Computer vision profiling of neurite outgrowth dynamics reveals spatio-temporal modularity of Rho GTPase signaling**. *Journal of Cell Biology*, 212(1):91–111, 2016

N. Suditu and F. Fleuret. **Adaptive relevance feedback for large-scale image retrieval**. *Multimedia Tools and Applications (MTA)*, 75(12):6777–6807, 2016

C. Dubout and F. Fleuret. **Adaptive Sampling for Large Scale Boosting**. *Journal of Machine Learning Research (JMLR)*, 15:1431–1453, 2014

H. Ben Shitrit, J. Berclaz, F. Fleuret, and P. Fua. **Multi-Commodity Network Flow for Tracking Multiple People**. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 36(8):1614–1627, 2013

R. Lefort and F. Fleuret. **TreeKL: A distance between high dimension empirical distributions**. *Pattern Recognition Letters (PRL)*, 34(2):140–145, 2013

K. Ali, F. Fleuret, D. Hasler, and P. Fua. **A Real-Time Deformable Detector**. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 34(2):225–239, 2012

F. Fleuret, T. Li, C. Dubout, E. K. Wampler, S. Yantis, and D. Geman. **Comparing machines and humans on a visual categorization test**. *Proceedings of the National Academy of*

Sciences (PNAS), 108(43):17621–17625, 2011

J. Berclaz, F. Fleuret, E. Turetken, and P. Fua. **Multiple Object Tracking using K-Shortest Paths Optimization**. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 33(9):1806–1819, 2011

F. Fleuret. **Multi-Layer Boosting for Pattern Recognition**. *Pattern Recognition Letters (PRL)*, 30:237–241, 2009

A. Shahrokni, F. Fleuret, T. Drummond, and P. Fua. **Classification-based Probabilistic Modeling of Texture Transition for Fast Line Search Tracking and Delineation**. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 31(3):570–576, 2009

F. Fleuret and D. Geman. **Stationary Features and Cat Detection**. *Journal of Machine Learning Research (JMLR)*, 9:2549–2578, 2008

F. Fleuret, J. Berclaz, R. Lengagne, and P. Fua. **Multi-Camera People Tracking with a Probabilistic Occupancy Map**. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 30(2):267–282, 2008

F. Fleuret. **Fast Binary Feature Selection with Conditional Mutual Information**. *Journal of Machine Learning Research (JMLR)*, 5:1531–1555, 2004

F. Fleuret and D. Geman. **Coarse-to-fine Face Detection**. *International Journal of Computer Vision (IJCV)*, 41(1/2):85–107, 2001

F. Fleuret and E. Brunet. **DEA : An Architecture for Goal Planning and Classification**. *Neural Computation*, 12:1987–2008, 2000

Peer-reviewed Conference Proceedings

J. Newling and F. Fleuret. **K-Medoids For K-Means Seeding**. In *Proceedings of the international conference on Neural Information Processing Systems (NIPS)*, 2017. (To appear)

S. Tulyakov, A. Ivanov, and F. Fleuret. **Weakly Supervised Learning of Deep Metrics for Stereo Reconstruction**. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2017. (To appear)

P. Baqué, F. Fleuret, and P. Fua. **Deep Occlusion Reasoning for Multi-Camera Multi-Target Detection**. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2017. (To appear)

A. Maksai, X. Wang, F. Fleuret, and P. Fua. **Non-Markovian Globally Consistent Multi-Object Tracking**. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2017. (To appear)

S. Abbasi-Sureshjani, B. Dasht Bozorg, B. M. ter Haar Romeny, and F. Fleuret. **Boosted Exudate Segmentation in Retinal Images using Residual Nets**. In *Proceedings of the*

- MICCAI Workshop on Ophthalmic Medical Image Analysis (OMIA), 2017. (To appear)
- T. Chavdarova and F. Fleuret. **Deep Multi-Camera People Detection**. In *Proceedings of the IEEE International Conference on Machine Learning and Applications (ICMLA)*, 2017. (To appear)
- J. Newling and F. Fleuret. **A Sub-Quadratic Exact Medoid Algorithm**. In *Proceedings of the international conference on Artificial Intelligence and Statistics (AISTATS)*, pages 185–193, 2017. (Best paper award)
- P. Baqué, F. Fleuret, and P. Fua. **Multi-Modal Mean-Fields via Cardinality-Based Clamping**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, 2017. (To appear)
- S. Abbasi-Sureshjani, B. Dasht Bozorg, B. M. ter Haar Romeny, and F. Fleuret. **Exploratory Study on Direct Prediction of Diabetes using Deep Residual Networks**. In *Proceedings of the thematic conference on computational vision and medical image processing (VipIMAGE)*, 2017. (To appear)
- T. Bagautdinov, A. Alahi, F. Fleuret, P. Fua, and S. Savarese. **Social Scene Understanding: End-to-End Multi-Person Action Localization and Collective Activity Recognition**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, 2017. (To appear)
- J. Newling and F. Fleuret. **Fast mini-batch k-means by nesting**. In *Proceedings of the international conference on Neural Information Processing Systems (NIPS)*, pages 1352–1360, 2016
- C. Jose and F. Fleuret. **Scalable Metric Learning via Weighted Approximate Rank Component Analysis**. In *Proceedings of the European Conference on Computer Vision (ECCV)*, pages 875–890, 2016
- O. Canévet, C. Jose, and F. Fleuret. **Importance Sampling Tree for Large-scale Empirical Expectation**. In *Proceedings of the International Conference on Machine Learning (ICML)*, pages 1454–1462, 2016
- J. Newling and F. Fleuret. **Fast k-means with accurate bounds**. In *Proceedings of the International Conference on Machine Learning (ICML)*, pages 936–944, 2016
- O. Canévet and F. Fleuret. **Large Scale Hard Sample Mining with Monte Carlo Tree Search**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, pages 5128–5137, 2016
- P. Baqué, T. Bagautdinov, F. Fleuret, and P. Fua. **Principled Parallel Mean-Field Inference for Discrete Random Fields**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, pages 5848–5857, 2016
- E. Khan, P. Baqué, F. Fleuret, and P. Fua. **Kullback-Leibler Proximal Variational Inference**. In *Proceedings of the international conference on Neural Information Processing Systems*

(*NIPS*), pages 3402–3410, 2015

T. Bagautdinov, F. Fleuret, and P. Fua. **Probability Occupancy Maps for Occluded Depth Images**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, pages 2829–2837, 2015

O. Canévet and F. Fleuret. **Efficient Sample Mining for Object Detection**. In *Proceedings of the Asian Conference on Machine Learning (ACML)*, pages 48–63, 2014

O. Canévet, L. Lefakis, and F. Fleuret. **Sample Distillation for Object Detection and Image Classification**. In *Proceedings of the Asian Conference on Machine Learning (ACML)*, pages 64–79, 2014

A. Penate Sanchez, F. Moreno-Noguer, J. Andrade Cetto, and F. Fleuret. **LETHA: Learning from High Quality Inputs for 3D Pose Estimation in Low Quality Images**. In *Proceedings of the International Conference on 3D vision (3DV)*, volume 1, pages 517–524, 2014

X. Wang, E. Turetken, F. Fleuret, and P. Fua. **Tracking Interacting Objects Optimally Using Integer Programming**. In *Proceedings of the European Conference on Computer Vision (ECCV)*, pages 17–32, 2014

L. Lefakis and F. Fleuret. **Dynamic Programming Boosting for Discriminative Macro-Action Discovery**. In *Proceedings of the International Conference on Machine Learning (ICML)*, pages 1548–1556, 2014

L. Lefakis and F. Fleuret. **Jointly Informative Feature Selection**. In *Proceedings of the international conference on Artificial Intelligence and Statistics (AISTATS)*, pages 567–575, 2014

L. Lefakis and F. Fleuret. **Reservoir Boosting : Between Online and Offline Ensemble Learning**. In *Proceedings of the international conference on Neural Information Processing Systems (NIPS)*, pages 1412–1420, 2013

C. Dubout and F. Fleuret. **Deformable Part Models with Individual Part Scaling**. In *Proceedings of the British Machine Vision Conference (BMVC)*, pages 28.1–28.10, 2013

C. Dubout and F. Fleuret. **Accelerated Training of Linear Object Detectors**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, pages 572–577, 2013

R. Sznitman, C. Becker, F. Fleuret, and P. Fua. **Fast Object Detection with Entropy-Driven Evaluation**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, pages 3270–3277, 2013

L. Lefakis and F. Fleuret. **Macro-Action Discovery Based on Change Point Detection and Boosting**. In *Proceedings of the IEEE International Conference on Machine Learning and Applications (ICMLA)*, volume 1, pages 574–577, 2012

N. Suditu and F. Fleuret. **Iterative Relevance Feedback with Adaptive Exploration / Exploitation Trade-off**. In *Proceedings of the ACM Conference on Information and*

Knowledge Management (CIKM), pages 1323–1331, 2012

C. Dubout and F. Fleuret. **Exact Acceleration of Linear Object Detectors**. In *Proceedings of the European Conference on Computer Vision (ECCV)*, pages 301–311, 2012

R. Lefort and F. Fleuret. **A tree-based distance between distributions: application to classification of neurons**. In *Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 2237–2240, 2012

C. Dubout and F. Fleuret. **Boosting with Maximum Adaptive Sampling**. In *Proceedings of the international conference on Neural Information Processing Systems (NIPS)*, pages 1332–1340, 2011

C. Dubout and F. Fleuret. **Tasting Families of Features for Image Classification**. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, pages 929–936, 2011

N. Suditu and F. Fleuret. **HEAT: Iterative Relevance Feedback with One Million Images**. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, pages 2118–2125, 2011

H. Ben Shitrit, J. Berclaz, F. Fleuret, and P. Fua. **Tracking Multiple Objects under Global Appearance Constraints**. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, pages 137–144, 2011

F. Fleuret, P. Abbet, C. Dubout, and L. Lefakis. **The MASH project**. In *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)*, pages 626–629, 2011

K. Ali, D. Hasler, and F. Fleuret. **FlowBoost – Appearance Learning from Sparsely Annotated Video**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, pages 1433–1440, 2011

G. Gonzalez, E. Turetken, F. Fleuret, and P. Fua. **Delineating Trees in Noisy 2D Images and 3D Image Stacks**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, pages 2799–2806, 2010

L. Lefakis and F. Fleuret. **Joint Cascade Optimization Using a Product of Boosted Classifiers**. In *Proceedings of the international conference on Neural Information Processing Systems (NIPS)*, pages 1315–1323, 2010

J. Berclaz, F. Fleuret, and P. Fua. **Multiple Object Tracking using Flow Linear Programming**. In *Proceedings of the 12th IEEE International Workshop on Performance Evaluation of Tracking and Surveillance (Winter-PETS)*, pages 1–8, 2009

J. Berclaz, A. Shahrokni, F. Fleuret, J. Ferryman, and P. Fua. **Evaluation of Probabilistic Occupancy Map People Detection for Surveillance Systems**. In *Proceedings of the IEEE International Workshop on Performance Evaluation of Tracking and Surveillance (PETS)*, pages 55–62, 2009

K. Ali, F. Fleuret, D. Hasler, and P. Fua. **Joint Pose Estimator and Feature Learning for Object Detection**. In *Proceedings of the IEEE International Conference on Computer Vision*

(ICCV), pages 1373–1380, 2009

G. Gonzalez, F. Fleuret, and P. Fua. **Learning Rotational Features for Filament Detection**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, pages 1582–1589, 2009

G. Gonzalez, F. Aguet, F. Fleuret, M. Unser, and P. Fua. **Steerable Features for Statistical 3D Dendrite Detection**. In *Proceedings of the International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, pages 625–632, 2009

J. Berclaz, F. Fleuret, and P. Fua. **Multi-Camera Tracking and Atypical Motion Detection with Behavioral Maps**. In *Proceedings of the European Conference on Computer Vision (ECCV)*, pages 112–125, 2008

G. Gonzalez, F. Fleuret, and P. Fua. **Automated Delineation of Dendritic Networks in Noisy Image Stacks**. In *Proceedings of the European Conference on Computer Vision (ECCV)*, pages 214–227, 2008

J. Berclaz, F. Fleuret, and P. Fua. **Principled Detection-by-classification from Multiple Views**. In *Proceedings of the International Conference on Computer Vision Theory and Applications (VISAPP)*, volume 2, pages 375–382, 2008

A. Lanza, L. Di Stefano, J. Berclaz, F. Fleuret, and P. Fua. **Robust Multi-View Change Detection**. In *Proceedings of the British Machine Vision Conference (BMVC)*, 2007

G. Blanchard and F. Fleuret. **Occam's Hammer**. In *Proceedings of the Annual Conference on Learning Theory (COLT)*, pages 112–126, 2007

J. Berclaz, F. Fleuret, and P. Fua. **Robust People Tracking with Global Trajectory Optimization**. In *Proceedings of the IEEE international conference on Computer Vision and Pattern Recognition (CVPR)*, volume 1, pages 744–750, 2006

M. Oezuysal, V. Lepetit, F. Fleuret, and P. Fua. **Feature Harvesting for Tracking-by-Detection**. In *Proceedings of the European Conference on Computer Vision (ECCV)*, volume 3953, pages 592–605, 2006

F. Fleuret and W. Gerstner. **A Bayesian Kernel for the Prediction of Neuron Properties from Binary Gene Profiles**. In *Proceedings of the IEEE International Conference on Machine Learning and Applications (ICMLA)*, pages 129–134, 2005

F. Fleuret and G. Blanchard. **Pattern Recognition from One Example by Chopping**. In *Proceedings of the international conference on Neural Information Processing Systems (NIPS)*, pages 371–378, 2005

F. Fleuret, R. Lengagne, and P. Fua. **Fixed Point Probability Field for Complex Occlusion Handling**. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, volume 1, pages 694–700, 2005

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