

Karteek Alahari

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EMPLOYMENT Inria, Grenoble, France

Inria / LJK / CNRS UMR 5224 / Université Grenoble Alpes
In the Thoth project-team (previously known as LEAR)
Permanent Research Scientist (chargé de recherche Inria) Oct 2015 -
Researcher (CDD Scientifique) Sep 2013 - Sep 2015

Inria & École Normale Supérieure, Paris, France Sep 2010 - Aug 2013
Inria / CNRS UMR 8548 / École Normale Supérieure
Postdoctoral Fellow in the WILLOW project-team

Oxford Brookes University, Oxford, UK Apr - Aug 2010
Postdoctoral Research Assistant (part-time)

Oxford Brookes University, Oxford, UK Nov 2005 - Mar 2010
Postgraduate Student Researcher

Microsoft Research, Redmond, USA May - Aug 2004
Research Intern

EDUCATION

Habilitation à diriger des recherches (HDR), January 2019
“Human, Motion and Other Priors for Partially-Supervised Recognition”
Reviewers: K. Grauman (UT Austin), V. Lepetit (U. Bordeaux), A. Zisserman (U. Oxford), Examiners: A. Efros (UC Berkeley), D. Ramanan (CMU), C. Schmid (Inria), President: J. Ponce (Inria)
Université Grenoble Alpes, Grenoble, France

Ph.D., Computing, July 2010
“Efficient Inference and Learning for Computer Vision Labelling Problems”
Adviser: Philip H. S. Torr
Oxford Brookes University, Oxford, UK

M.S. by Research, Computer Science, July 2005
International Institute of Information Technology (IIIT), Hyderabad, India

B.Tech. (Hons.), Computer Science and Engineering, July 2004, GPA: 9.86/10
International Institute of Information Technology (IIIT), Hyderabad, India

SELECTED AWARDS

Outstanding reviewer award at NeurIPS 2020: Awarded to the top 10% reviewers.

Promoted senior member of IEEE in 2017: According to IEEE, only 10% of over 420,000 members hold this grade.

Inria award for research and doctoral training (formerly known as scientific excellence award) 2016.

Winner of the visual object tracking challenge (VOT-TIR track) held at ICCV 2015.

Google Research Award 2015: One of the 12 awardees in machine perception world-wide.

Member of the team ranked 1st out of 11 participants in one of the competitions in the TRECVID 2014 challenge (video retrieval evaluation).

GE Foundation Scholar (2004 - 2005): One of the 73 postgraduate students in India to have received this scholarship awarded by The GE Foundation.

Dean's List I for academic excellence (2001 - 2004): Awarded to the top 5% of the class. I received this award for 7 consecutive semesters, from when it was introduced, until the end of my undergraduate. Ranked first in the graduating class of 144 students.

RESEARCH GROUP

Postdocs (1 current, 2 former):

- D. Khuê Lê-Huu, since 2020
- Henrique Morimitsu, Inria, with Cordelia Schmid, 2016 - 2018
- Anoop Cherian, Inria, with Julien Mairal and C. Schmid, 2013 - 2015

PhD students (7 current, 7 former):

- Mert Bulent Sariyildiz, Inria, since 2020
- Florent Bartoccioni, Inria, since 2019
- Valentin Gabeur, Inria, since 2019
- Ekaterina Iakovleva, Univ. Grenoble Alpes, since 2019
- Hubert Leterme, Univ. Grenoble Alpes, with Valérie Perrier, since 2019
- Lina Mezghani, Inria, since 2019
- Avijit Dasgupta, *Google India PhD Fellow*, IIIT Hyderabad, India, with C. V. Jawahar, since 2017
- Vladyslav Sydorov, with C. Schmid, 2016 - 2020, expected: May 2021
- Thomas Lucas, with Jakob Verbeek, 2018 - 2020, defended: 25th September 2020
- Konstantin Shmelkov, Inria, with C. Schmid, 2017 - 2019, defended: 29th March 2019
- Nicolas Chesneau, Inria, with C. Schmid, 2014 - 2017, defended: 23rd Feb 2018
- Pavel Tokmakov, Inria, with C. Schmid, 2014 - 2018, defended: 4th June 2018
- Yang Hua, Inria, with C. Schmid, 2013 - 2016, defended: 10th June 2016
- Anand Mishra, *Microsoft Research India PhD Fellow 2012, first runner-up for the Xerox Research India Doctoral Dissertation award 2015*, IIIT Hyderabad, India, with C. V. Jawahar, 2011 - 2016, defended: 18th November 2016

Masters (6 former):

- Arnaud Massenet (funded by ATP), April - Sep 2020
- Hubert Leterme, with V. Perrier, Feb - June 2019
- Matthieu Toulemont, with C. Schmid, April - Sep 2019
- Vu Tuan Hung, with Remi Ronfard, Feb - June 2017
- Valentin Thomas, with C. Schmid, April - July 2016
- Vladyslav Sydorov, with Adrien Gaidon (Xerox) and C. Schmid, 2015
- Udit Roy, with C. V. Jawahar, 2014 - 2015

TEACHING

Machine Learning Summer Schools (MLSS), Taipei, Taiwan Invited lecturer, part of an established series of summer schools worldwide.	2021
Univ. Grenoble Alpes , Grenoble, France Co-instructor, MoSIG <i>Category Learning and Object Recognition</i> course.	2018-'21
Centrale Supélec Paris , Gif-sur-Yvette, France Co-instructor, MVA <i>Discrete Inference and Learning</i> course.	2017-'21
École Normale Supérieure , Paris, France Co-instructor, M1 <i>Introduction to Computer Vision</i> course.	2017-'21
Ensimag , Grenoble, France Co-instructor, M2 <i>Understanding Big Visual Data</i> course.	2016-'21
IIIT , Hyderabad, India Instructor, annual school in computer vision and machine learning.	2017-'19, 2021
École Centrale Paris , Châtenay-Malabry, France Co-instructor, M1 <i>Discrete Optimization</i> course.	2015-'17
Ensimag , Grenoble, France Co-instructor, M2 <i>Multimedia databases</i> course.	2013-'15
École Normale Supérieure , Paris, France Guest lecturer, Jean Ponce's <i>computer vision</i> course.	Sep 2010 - Aug 2012
ENS/Inria - WILLOW , Paris, France Tutorial on combinatorial optimization in computer vision.	Mar 2011
IIIT , Hyderabad, India Full-day tutorial on discrete optimization in computer vision.	Dec 2009
IIIT , Hyderabad, India <i>Teaching Assistant</i> : Discrete Mathematics, Computer Organization.	2004, 2002

RESEARCH GRANTS

- PI, CIFRE PhD grant with NaverLabs Europe, 2020 - 2023
- PI, CIFRE PhD grant with Valeo AI, 2019 - 2022
- PI, CIFRE PhD grant with Google, 2019 - 2022
- PI, CIFRE PhD grant with Facebook AI, 2019 - 2022
- PI, ANR JCJC grant AVENUE, 2019 - 2022
- PI, Inria Associate team GAYA, 2019 - 2021, co-PI: Katerina Fragkiadaki (CMU, USA)
- Member, EASYTECH PLATYPUS project, 2018 - 2019
- co-PI, PEPS AMIES AuMalis project, 2017 - 2019, PI: Valérie Perrier (UGA)
- PI, Inria Associate team GAYA, 2016 - 2018, co-PI: Deva Ramanan (CMU, USA)
- co-PI, Indo-French collaborative research program with IIIT Hyderabad, 2016 - 2018, funded by CEFIPRA, PI: C. Schmid
- PI, Google Research Award, 2015, co-PI: C. Schmid

INVITED TALKS & PANELS	<i>Panel discussion on computer vision for India</i> Vaibhav Summit , Govt. of India Initiative, Online	Oct 2020
	<i>Automatic Understanding of the Visual World</i> Panel on AI and Mathematics, Knowledge Summit , Lyon, France	Oct 2019
	<i>Actions and Objects</i> LIAMA workshop, Paris, France	Apr 2019
	<i>Weakly-supervised and Incremental Learning</i> IISc , Bangalore, India	Dec 2018
	<i>Incremental Learning</i> Valeo AI , Paris, France	Dec 2018
	Hyderabad AI Symposium , India	Dec 2018
	<i>Weakly-supervised and Incremental Learning</i> Simon Fraser Univ. , Vancouver, Canada	Nov 2018
	POSTECH , Pohang, South Korea	Oct 2018
	<i>Actor and Observer: Joint Modeling of First and Third-Person Videos</i> COVIEW workshop, ACM Multimedia, Seoul, South Korea	Oct 2018
	<i>Automatic Understanding of the Visual World</i> <i>Le Futur des Images</i> workshop, IXXI , Lyon, France	Oct 2018
	<i>Learning Motion Patterns for Weakly-supervised Semantic Segmentation</i> Toyota Research Institute (TRI), Los Altos, USA	Aug 2018
	Universidad de Málaga, Málaga , Spain	Apr 2018
	<i>Incremental Learning without Catastrophic Forgetting</i> CVPR AC Meeting, Toronto, Canada	Feb 2018
	<i>Deep Learning with Weak/Self Supervision</i> ETH Zurich Photogrammetry group retreat talk, Morzine, France	Jan 2017
	<i>Learning Motion Patterns and their use for Semantic Segmentation</i> Mysore Park Workshop on Vision, Language and AI, Mysore, India	Dec 2016
	<i>What can we do with motion cues?</i> Carnegie Mellon University (CMU), Pittsburgh, USA	Jul 2016
	<i>Scene Understanding in Videos: Tracking and Pose Estimation</i> IST Austria , Klosterneuburg, Austria	Sep 2015
	<i>Efficient Inference Algorithms for Scene Understanding Problems</i> 5th Workshop on Algorithmic issues for Inference in Graphical Models (AIMG), Paris, France	Sep 2015
	<i>Scene Understanding in Images and Videos: Segmentation, Recognition, Tracking and Pose Estimation</i> Universidad de Córdoba, Córdoba , Spain	May 2015

<i>Human Pose Estimation and Segmentation in Videos</i> 36th Pattern Recognition and Computer Vision Colloquium, CTU , Prague, Czech Republic	Apr 2015
<i>Random Field Models for Visual Scene Understanding</i> Applied Probability & Stats. Seminar, LJK , St Martin d'Hères, France	Feb 2015
<i>Scene Understanding in Videos: Segmentation, Tracking and Pose Estimation</i> Computer Vision Center (CVC), Barcelona, Spain	Oct 2014
<i>Approaches for Image Classification, and Pose Estimation and Segmentation in Videos</i> Xerox Research Center Europe (XRCE), Meylan, France	Oct 2014
<i>Scene Understanding: What more can we do with videos?</i> University of California, Berkeley , USA	Jul 2014
<i>Scene Understanding: What more can we do with videos, depth and text?</i> KTH Royal Institute of Technology, Stockholm, Sweden	May 2014
<i>Learning Graphs for Matching</i> Maori Workshop, École Polytechnique , Palaiseau, France	Nov 2013
Brookes Vision Anniversary Workshop, University of Oxford , UK	Oct 2013
<i>Scene Understanding: What more can we do with videos and text?</i> A3SI group, LIGM, ESIEE Paris , France	Jan 2013
Robotics Research Group, University of Oxford , UK	Sep 2012
<i>Layered Segmentation of People in Stereoscopic Videos</i> MSR-Inria workshop, Microsoft Research Cambridge , UK	Apr 2012
<i>An Efficient Energy Minimization Framework for Scene Understanding</i> Toyota Technological Institute at Chicago (TTIC), USA	Jun 2011
Center for Machine Perception, CTU , Prague, Czech Republic	Jun 2011
<i>Scene Understanding in an Energy Minimization Framework</i> IIT , Hyderabad, India	Dec 2010
Mitsubishi Electric Research Labs (MERL), Boston, USA	Jun 2010
KTH Royal Institute of Technology, Stockholm, Sweden	May 2010
École Centrale Paris , Chatenay-Malabry, France	Apr 2010
<i>Reduce, Reuse & Recycle: Efficient Discrete Optimization Methods</i> ETH Zurich , Zurich, Switzerland	Nov 2009
<i>Modelling and Recognition of Dynamic Events in Videos</i> Microsoft Research India , Bangalore, India	May 2005

**OTHER
PROFESSIONAL
ACTIVITIES**

Lead organizer - Summer Schools:

- PAISS: Artificial Intelligence Summer School, Paris, Oct 2019
- PAISS: Artificial Intelligence Summer School, Grenoble, Jul 2018

Co-organizer of Workshops:

- ERC ALLEGRO Workshops on Video Recognition, Grenoble, 2014, 2015

- ECCV Workshop on Higher-Order Models and Global Constraints in Computer Vision, Florence, Oct 2012

Co-organizer of Tutorials:

- CVPR half-day tutorial on Annotation Efficient Learning, Virtual. Jun 2020
- ICPR half-day tutorial on discrete optimization, Stockholm, Sweden. Aug 2014

Co-editor - Book:

“Visual Text Interpretation - Algorithms and Applications in Scene Understanding and Document Analysis” in the Advances in Computer Vision and Pattern Recognition series, Springer, 2021 (in preparation)

Guest Co-editor - Journal:

Special Issue on “Higher Order Graphical Models in Computer Vision: Modelling, Inference & Learning” in IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2015

Thesis Examiner:

External:

- 2019: Allison Del Giorno, Carnegie Mellon University, USA (Thesis committee)
- 2019: Alessandro di Martino, University of Bath, UK (External examiner)
- 2019: Thomas Robert, Sorbonne Université, Paris, France (Jury member)
- 2019: D. Khuê Lê-Huu, Université Paris-Saclay, France (Jury member)
- 2018: Mostafa S. Ibrahim, Simon Fraser University, Canada (External examiner)
- 2017: Lukáš Neumann, CTU, Prague, Czech Republic (Jury member)
- 2017: Raghudeep Gadde, École des Ponts ParisTech, Paris, France (Jury member)
- 2016: Guillaume Seguin, École Normale Supérieure, Paris, France (Jury member)
- 2014: Jon Almazán, Universitat Autònoma de Barcelona, Spain (Jury president)
- 2014: Heydar Maboudi, KTH, Stockholm, Sweden (Jury member)

Supervised students:

- 2020: Thomas Lucas, Université Grenoble Alpes, Grenoble, France (Co-supervisor)
- 2019: Konstantin Shmelkov, Université Grenoble Alpes, Grenoble, France (Co-supervisor)
- 2018: Pavel Tokmakov, Université Grenoble Alpes, Grenoble, France (Co-supervisor)
- 2018: Nicolas Chesneau, Université Grenoble Alpes, Grenoble, France (Co-supervisor)
- 2016: Anand Mishra, IIIT Hyderabad, India (Thesis defense, Co-supervisor)
- 2016: Yang Hua, Université Grenoble Alpes, Grenoble, France (Co-supervisor)
- 2016: Anand Mishra, IIIT Hyderabad, India (Thesis proposal, Co-supervisor)

Associate editor (Journal editorial board):

- CVIU Computer Vision and Image Understanding since 2018
- IJCV International Journal of Computer Vision since 2019

Program co-chair: BMVC 2021 (upcoming)

Area chair (Senior program committee):

- AAAI 2020
- CVPR 2021, 2020, 2018
- ECCV 2020
- ICCV 2021, 2019
- ICVGIP 2018
- IJCAI 2020, 2019, 2018

Reviewer - Funding agencies:

Canada	NSERC	Natural Sciences & Eng. Research Council	2015-'16
Chile	FONDECYT	National Fund for Scientific & Tech. Dev.	2020
EU	ERC	European Research Council	2020
France	ANR	Agence Nationale de la Recherche	2016-'17, 2019-'20
Iceland	IRF	Icelandic Research Fund	2016

Reviewer - Journals:

CVIU	Computer Vision and Image Understanding	2014-'18
IJCV	International Journal of Computer Vision	2012–
IVC	Image and Vision Computing	2008
JMLR	Journal of Machine Learning Research	2014
PAMI	IEEE Transactions on Pattern Analysis and Machine Intelligence	2011–

Other journals: CVA, (IPSN Trans. Computer Vision and Applications), JRTIP (Journal of Real-Time Image Processing), RAS (Robotics and Autonomous Systems), TVC (The Visual Computer)

Reviewer - Conferences:

CVPR	IEEE Conf. Computer Vision & Pattern Recognition	2008, 2012-'17 2019
ECCV	European Conf. Computer Vision	2010, 2012, 2014, 2016
ICCV	IEEE Intl. Conf. Computer Vision	2011, 2013, 2015, 2017
ICML	Intl. Conf. Machine Learning	2018
NeurIPS	Neural Information Processing Systems	2009, 2012-'15, 2018, 2020

Other conferences: ACCV (Asian Conf. Computer Vision), BMVC (British Machine Vision Conf.), EMMCVPR (Energy Min. Computer Vision & Pattern Recog.), ICPR (IEEE Intl. Conf. Pattern Recognition), ICVGIP (Indian Conf. Vision, Graphics, & Image Proc.), IJCAI (Intl. Joint Conf. Artificial Intelligence), RFIA (Reconnaissance des Formes et l'Intelligence Artificielle), SIGGRAPH Asia

SOFTWARE & DATASETS

In addition to participating in the development of software for our methods, I have been involved in producing datasets, to compare and evaluate approaches. These are available at <http://thoth.inrialpes.fr/people/alahari/soft.html>.

- *Software for Multimodal Transformer Model* 2020
- *Software for Motion-Augmented RGB for Action Recognition* 2019
- *Software for end-to-end incremental learning* 2019
- *Software for Actor-Observer Joint Learning* 2018
- *Charades-Ego Dataset* 2018
- *Software for Learning Video Segmentation with Visual Memory* 2017
- *Software for Learning Motion Patterns* 2017
- *Software for Online Object Tracking* 2017
- *Software for Weakly-supervised Semantic Segmentation* 2016
- *Software for Pose Estimation and Segmentation of Multiple People* 2015
- *Software for Human Pose Estimation in Videos* 2014
- *Poses in the Wild Dataset* 2014
- *Inria 3DMovie Dataset* 2013
- *Software and Dataset for Learning Graphs* 2013

- *IIIT-STR, Sports-10K, TV Series-1M Datasets* 2013
- *Software for Solving Detection and Segmentation Problems Jointly* 2012
- *IIIT 5K-Word Dataset* 2012
- *SVT-CHAR: Annotated Character Dataset* 2012
- *Software - Alpha-expansion Beta-shrink Moves for Markov Random Fields* 2011
- *INRIA-Video Dataset* 2011
- *Dataset for Vision Labelling Problems* 2010
- *Software - Efficient Solvers for Multi-Label MRFs* 2009

PUBLICATIONS IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI) and International Journal of Computer Vision (IJCV) are the main journals of computer vision. They are consistently rated as top journals in computer science (impact factor: PAMI and IJCV 17.861 (2019) and 6.071 (2018) resp.), with acceptance rate below 30%.

The main conferences in computer vision are IEEE Conference on Computer Vision and Pattern Recognition (CVPR), European Conference on Computer Vision (ECCV), and IEEE International Conference on Computer Vision (ICCV).

They are highly selective, with around 25% acceptance rate (less than 5% for oral), and their proceedings play a role which is as important as international journals. For example, according to the latest Google scholar statistics, CVPR has h5-index of 299, compared to 131 for PAMI and 70 for IJCV. (See <http://goo.gl/0u9A7T>)

Google Scholar profile: <http://goo.gl/MWwf3E> Hal profile: <http://goo.gl/gw4PzG>

Refereed journal articles - 6

- P. Tokmakov, C. Schmid, and K. Alahari “Learning to Segment Moving Objects,” *International Journal of Computer Vision*, March 2019
- N. Chesneau, K. Alahari, C. Schmid, “Learning from Web Videos for Event Classification” *IEEE Transactions on Circuits and Systems for Video Technology*, October 2018
- A. Mishra, K. Alahari, and C. V. Jawahar, “Unsupervised refinement of color and stroke features for text binarization,” *International Journal on Document Analysis and Recognition*, June 2017
- A. Mishra, K. Alahari, and C. V. Jawahar, “Enhancing Energy Minimization Framework for Scene Text Recognition with Top-Down Cues,” *Computer Vision and Image Understanding Journal*, April 2016
- G. Seguin, K. Alahari, J. Sivic, and I. Laptev, “Pose Estimation and Segmentation of Multiple People in Stereoscopic Movies,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, August 2015
- K. Alahari, P. Kohli, and P. H. S. Torr, “Dynamic Hybrid Algorithms for MAP Inference in Discrete MRFs,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, October 2010

Top refereed international conferences (CVPR/ECCV/ICCV/ICML/NeurIPS) - 25

V. Gabeur, C. Sun, K. Alahari, C. Schmid, “Multi-modal Transformer for Video Retrieval,” *European Conference on Computer Vision*, 2020

E. Iakovleva, J. Verbeek, K. Alahari, “Meta-Learning with Shared Amortized Variational Inference,” *International Conference on Machine Learning*, 2020

T. Lucas, K. Shmelkov, K. Alahari, C. Schmid, and J. Verbeek, “Adaptive Density Estimation for Generative Models,” *Advances in Neural Information Processing Systems*, 2019

N. Crasto, P. Weinzaepfel, K. Alahari, and C. Schmid, “MARS: Motion-Augmented RGB Stream for Action Recognition,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2019

F. M. Castro, M. J. Marín-Jiménez, N. Guil, C. Schmid, and K. Alahari, “End-to-End Incremental Learning,” *European Conference on Computer Vision*, 2018

K. Shmelkov, C. Schmid, and K. Alahari, “How good is my GAN?” *European Conference on Computer Vision*, 2018

G. A. Sigurdsson, A. Gupta, C. Schmid, A. Farhadi, and K. Alahari, “Actor and Observer: Joint Modeling of First and Third-Person Videos,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2018

K. Shmelkov, C. Schmid, and K. Alahari, “Incremental Learning of Object Detectors without Catastrophic Forgetting,” *IEEE International Conference on Computer Vision*, 2017

P. Tokmakov, K. Alahari, and C. Schmid, “Learning Video Object Segmentation with Visual Memory,” *IEEE International Conference on Computer Vision*, 2017

P. Tokmakov, K. Alahari, and C. Schmid, “Learning Motion Patterns in Videos,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2017

P. Tokmakov, K. Alahari, and C. Schmid, “Weakly-Supervised Semantic Segmentation using Motion Cues,” *European Conference on Computer Vision*, 2016

Y. Hua, K. Alahari, and C. Schmid, “Online Object Tracking with Proposal Selection,” *IEEE International Conference on Computer Vision*, 2015

Y. Hua, K. Alahari, and C. Schmid, “Occlusion and Motion Reasoning for Long-term Tracking,” *European Conference on Computer Vision*, 2014

A. Cherian, J. Mairal, K. Alahari, and C. Schmid, “Mixing Body-Part Sequences for Human Pose Estimation,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2014

K. Alahari, G. Seguin, J. Sivic, and I. Laptev, “Pose Estimation and Segmentation of People in 3D Movies,” *IEEE International Conference on Computer Vision*, 2013

M. Cho, K. Alahari, and J. Ponce, “Learning Graphs to Match,” *IEEE International Conference on Computer Vision*, 2013 (**oral**)

A. Gandhi, K. Alahari, and C. V. Jawahar, “Decomposing Bag of Words Histograms,” *IEEE International Conference on Computer Vision*, 2013

A. Mishra, K. Alahari, and C. V. Jawahar, “Image Retrieval using Textual Cues,” *IEEE International Conference on Computer Vision*, 2013

F. Couzinié-Devy, J. Sun, K. Alahari, and J. Ponce, “Learning to Estimate and Remove Non-uniform Image Blur,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2013

A. Mishra, K. Alahari, and C. V. Jawahar, “Top-Down and Bottom-up Cues for Scene Text Recognition,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2012

J. Lezama, K. Alahari, J. Sivic, and I. Laptev, “Track to the Future: Spatio-temporal Video Segmentation with Long-range Motion Cues,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2011

L. Ladicky, P. Sturgess, K. Alahari, C. Russell, and P. H. S. Torr, “What, Where & How Many? Combining Object Detectors and CRFs,” *European Conference on Computer Vision*, 2010 (oral)

K. Alahari, C. Russell, and P. H. S. Torr, “Efficient Piecewise Learning for Conditional Random Fields,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2010

K. Alahari, P. Kohli, and P. H. S. Torr, “Reduce, Reuse & Recycle: Efficiently Solving Multi-Label MRFs,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2008

S. Ramalingam, P. Kohli, K. Alahari, and P. H. S. Torr, “Exact Inference in Multi-label CRFs with Higher Order Cliques,” *IEEE Conference on Computer Vision and Pattern Recognition*, 2008

Other refereed international conferences - 8

A. Dasgupta, C. V. Jawahar, K. Alahari “Context Aware Group Activity Recognition,” *International Conference on Pattern Recognition*, 2020

U. Roy, A. Mishra, K. Alahari, C. V. Jawahar “Scene Text Recognition and Retrieval for Large Lexicons,” *Asian Conference on Computer Vision*, 2014

V. Goel, A. Mishra, K. Alahari, C. V. Jawahar “Whole is Greater than Sum of Parts: Recognizing Scene Text Words,” *IEEE International Conference on Document Analysis and Recognition*, 2013

A. Mishra, K. Alahari, and C. V. Jawahar, “An MRF Model for Binarization of Natural Scene Text,” *IEEE International Conference on Document Analysis and Recognition*, 2011 (oral)

M. Schmidt and K. Alahari, “Generalized Fast Approximate Energy Minimization via Graph Cuts: Alpha-Expansion Beta-Shrink Moves,” *Conference on Uncertainty in Artificial Intelligence*, 2011

K. Alahari, S. L. Putrevu, and C. V. Jawahar, “Learning Mixtures of Offline and Online

features for Handwritten,” *International Conference on Pattern Recognition*, 2006

K. Alahari, S. L. Putrevu, and C. V. Jawahar, “Discriminant Substrokes for Online Handwriting Recognition,” *IEEE International Conference on Document Analysis and Recognition*, 2005 (oral)

K. Alahari, S. Kuthirummal, C. V. Jawahar, and P. J. Narayanan, “Geometric and Stochastic Error Minimisation in Motion Tracking,” *Asian Conference on Computer Vision*, 2004

Refereed national conferences - 7

V. Sydorov, K. Alahari, and C. Schmid “Focused Attention for Action Recognition,” *British Machine Vision Conference*, 2019

N. Chesneau, G. Rogez, K. Alahari, and C. Schmid, “Detecting Parts for Action Localization,” *British Machine Vision Conference*, 2017

A. Mishra, K. Alahari, and C. V. Jawahar, “Scene Text Recognition using Higher Order Language Priors,” *British Machine Vision Conference*, 2012 (oral)

P. Sturgess, K. Alahari, L. Ladicky, and P. H. S. Torr, “Combining Appearance and Structure from Motion Features for Road Scene Understanding,” *British Machine Vision Conference*, 2009 (oral)

K. Alahari and C. V. Jawahar, “Dynamic Events as Mixtures of Spatial and Temporal Features,” *Indian Conf. Computer Vision, Graphics and Image Processing*, 2006

K. Alahari and C. V. Jawahar, “Discriminative Actions for Recognising Events,” *Indian Conf. Computer Vision, Graphics and Image Processing*, 2006

S. S. Ravi Kiran, K. Alahari, and C. V. Jawahar, “Recognizing Human Activities from Constituent Actions,” *National Conference on Communications*, 2005

Editorial

K. Alahari, D. Batra, S. Ramalingam, N. Paragios, and R. Zemel, “Guest Editors’ Introduction: Special Section on Higher Order Graphical Models in Computer Vision,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, July, 2015

Research reports

L. Mezghani, S. Sukhbaatar, T. Lavril, O. Maksymets, D. Batra, P. Bojanowski, K. Alahari, “Memory-Augmented Reinforcement Learning for Image-Goal Navigation,” *Technical report*, 2021

M. B. Sariyildiz, Y. Kalantidis, D. Larlus, K. Alahari, “Concept Generalization in Visual Representation Learning,” *Technical report*, 2020

S. Albanie et al., “The End-of-End-to-End: A Video Understanding Pentathlon Challenge,” *Technical report*, 2020 (CVPR 2020 workshop report)

G. A. Sigurdsson, A. Gupta, C. Schmid, and K. Alahari, “Beyond the Camera: Neural Networks in World Coordinates,” *Technical report*, 2020

P. Tokmakov, C. Schmid, and K. Alahari “Learning to Segment Moving Objects,” *Technical report*, 2017 (published IJCV 2019)

P. Tokmakov, K. Alahari, and C. Schmid, “Learning Video Object Segmentation with Visual Memory,” *Technical report*, 2017 (published ICCV 2017)

M. Felsberg et al., “The Thermal Infrared Visual Object Tracking VOT-TIR2015 Challenge Results,” *Technical report*, 2015 (presented at ICCV 2015 workshop)

M. Kristan et al., “The Visual Object Tracking VOT2015 Challenge Results,” *Technical report*, 2015 (presented at ICCV 2015 workshop)

M. Douze, D. Oneata, M. Paulin, C. Leray, N. Chesneau, D. Potapov, J. Verbeek, K. Alahari, Z. Harchaoui, L. Lamel, J.-L. Gauvain, C. A. Schmidt, C. Schmid, “The INRIA-LIM-VocR and AXES submissions to Trecvid 2014 Multimedia Event Detection,” *Trecvid submission report*, 2014

Theses

K. Alahari, “Human, Motion and Other Priors for Partially-Supervised Recognition,” *HDR manuscript*, Université Grenoble Alpes, January 2019

K. Alahari, “Efficient Inference and Learning for Computer Vision Labelling Problems,” *Ph.D. Thesis*, Oxford Brookes University, July 2010

K. Alahari, “Modelling and Recognition of Dynamic Events in Video,” *MS Thesis*, IIT, Hyderabad, July 2005