# Michał **Koperski**

PhD Student at INRIA

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## Education

### INRIA, University of Nice Sophia Antipolis

*Sophia Antipolis, France*

Ph.D. in Computer Science (Computer Vision)

*Jan. 2014 - exp. Nov. 2017*

- Advisor: Francois Bremond, INRIA
- Reviewer: Matthieu Cord, University Pierre Marie Currie
- Reviewer: Leonid Sigal, University of British Columbia
- Examinator: Jean-Marc Odobez, IDIAP
- President: Federic Precioso, University of Nice Sophia Antipolis

### Poznan University of Technology

*Poznan, Poland*

M.Sc. in Computer Science and Engineering

*Feb. 2007 - Aug. 2009*

### Poznan University of Technology

*Poznan, Poland*

B.S. in Computer Science and Engineering

*Oct. 2004 - Feb. 2007*

## Experience

### INRIA

*Sophia Antipolis, France*

PhD Student

*Feb. 2014 - PRESENT*

- Proposed, implemented and validated several methods for action recognition (multimodal RBG+D desriptor, Brownian Covariance, Spatio-Temporal layout for Fisher Vector) and action detection (Real time Fisher Vector representation),
- Published 9 scientific papers,
- The code of the proposed methods was successfully transferred to Toyota.

### Disney Research

*Pittsburgh, PA, USA*

Research Internship

*Jan. 2016 - Apr. 2016*

- Supervisors: Peter Carr, Slawomir Bak,
- Proposed cross-view Fisher Vector representation for People Re-Identification,
- Published 1 scientific paper,
- 1 patent request was filed.

### INRIA

*Sophia Antipolis, France*

Research Internship

*Apr. 2013 - Sep. 2013*

- Supervisor: Francois Bremond,
- Proposed multimodal RGB-D descriptor for action recognition,
- Published 1 scientific paper.

### Wroclaw University of Technology

*Wroclaw, Poland*

Teaching Assistant

*Apr. 2012 - Mar. 2013*

- Teaching "Algorithms and Data Structures"
- Teaching "Operating Systems"

### Poznan University of Technology

*Poznan, Poland*

Research Engineer

*Jan. 2010 - Apr. 2012*

- BirdWatch project at Intelligent Decision Support System Laboratory,
- Implemented and validated bird species detection system for mobile devices (ARM),
- Teaching "Software Engineering"
- Published 1 book chapter.

## Skills

**Programming** Python, Matlab, Java, C/C++

**Frameworks** PyTroch, Scikit-Learn, Numpy, Pandas, Caffe, MatConvNet

**Languages** English (Fluent), French (Intermediate), Russian (Intermediate), German (Beginner), Polish (Native)

# Mentoring

## Master Students

2017 **Srijan Das**, co-advised by F. Bremond, Action Recognition [3] *INRIA*

2017 **Killian Barrere**, co-advised by F. Bremond, Action Recognition *INRIA*

# Professional activities

### Referee and Reviewer

- IEEE Transactions on Multimedia
- British Machine Vision Conference

# Publications

[1] [2] [3] [7] [4] [6] [8] [9] [10] [5] [11] [12]

## Journal Articles


[1] Carlos Crispim-Junior et al. “Online Recognition of Daily Activities by Color-Depth Sensing and Knowledge Models”. In: *Sensors* vol. 17 (June 2017), p. 1528.


## Conference Proceedings


[2] Michal Koperski, Slawomir Bak, and Peter Carr. “Groups Re-identification with Temporal Context”. In: *The 2017 ACM on International Conference on Multimedia Retrieval (ICMR)*. Bucharest, Romania, June 2017.

[3] Das Srijan et al. “Action Recognition based on a mixture of RGB and Depth based skeleton”. In: *The 14th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)*. Aug. 2017, pp. 228–234. DOI: 10.1109/AVSS.2016.7738060.

[4] Carlos Fernando Crispim-Junior et al. “Semi-supervised understanding of complex activities from temporal concepts”. In: *The 13th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)*. Colorado Springs, United States, Aug. 2016. URL: https://hal.inria.fr/hal-01398958.

[5] Michal Koperski and Francois Bremond. “Modeling Spatial Layout of Features for Real World Scenario RGB-D Action Recognition”. In: *The 13th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)*. Colorado Springs, United States, Aug. 2016, pp. 44–50. URL: https://hal.inria.fr/hal-01399037.

[6] Farhood F Negin et al. “A hybrid framework for online recognition of activities of daily living in real-world settings”. In: *The 13th IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)*. Colorado springs, United States: IEEE, Aug. 2016. DOI: 10.1109/AVSS.2016.7738021. URL: https://hal.inria.fr/hal-01384710.

[7] F. Negin et al. “Generating unsupervised models for online long-term daily living activity recognition”. In: *2015 3rd IAPR Asian Conference on Pattern Recognition (ACPR)*. Nov. 2015, pp. 186–190. DOI: 10.1109/ACPR.2015.7486491.

[8] Javier Ortiz et al. “Minimizing hallucination in Histogram of Oriented Gradients”. In: *The 12th IEEE International Conference on Advanced Video and Signal-based (AVSS)*. Karlsruhe, Germany, Aug. 2015.

[9] Piotr Bilinski et al. “Representing Visual Appearance by Video Brownian Covariance Descriptor for Human Action Recognition”. In: *The 11th IEEE International Conference on Advanced Video and Signal-based (AVSS)*. IEEE. Seoul, South Korea, Aug. 2014.

[10] M. Koperski, P. Bilinski, and F. Bremond. “3D trajectories for action recognition”. In: *The 21st IEEE International Conference on Image Processing (ICIP)*. Oct. 2014, pp. 4176–4180. DOI: 10.1109/ICIP.2014.7025848.


## PhD thesis


[11] Michal Koperski. “Human Action Recognition in Videos with Local Representation”. PhD thesis. INRIA, University of Nice Sophia-Antipolis, Nov. 2017.


## Book Chapters


[12] Jacek Jelonek Lukasz Kirchner Michal Koperski. “Distributed standalone mobile data providers for BirdWatch system”. In: NAKOM, 2011. ISBN: 978-83-89529-82-4.