

Pavel Tokmakov

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📁 pvtokmakov.github.io/home

Research

- 2018-now **Project Scientist**, *CMU Robotics Institute*, Pittsburgh, USA.
Working on problems related to video understanding and learning under limited supervision. Co-directing research projects, as well as conducting research individually and in collaborations with others.
- 2014-2018 **PhD student with Dr. Cordelia Schmid and Dr. Karteek Alahari**, *Inria THOTH team*, Grenoble, France.
Studying the role of motion in object recognition. The research resulted in both new methods for motion estimation and a novel approach for exploiting motion as a supervisory signal.
- 2013-2014 **MSc student with Prof. Dr. Kristian Kersting**, *Technical University of Dortmund*, Germany.
Development of Relational Linear Programming (RLP), a novel paradigm for combining linear and logic programming. Designing a language for defining RLPs and implementation of a lifted solver for the language.
- 2012-2014 **Research assistant to Dr. Mario Boley**, *Fraunhofer IAIS*, Germany.
Development of a novel approach for interactive knowledge discovery. Utilizing co-active learning to capture user preference through interaction and automatically adapt data-mining algorithms to it.

Education

- 2014-2018 **PhD in Computer Science**, *University of Grenoble*, France.
Topic: Weakly-Supervised Learning for Object Recognition
- 2012-2014 **MSc in Computer Science**, *University of Bonn*, Germany, *GPA – 4.0*.
Emphasis on Intelligent Systems
- 2009-2011 **MTech in Automation and Control**, *ITMO University*, Saint-Petersburg, Russia, *GPA – 3.64*.
- 2005-2009 **BTech in Automation and Control**, *ITMO University*, Saint-Petersburg, Russia, *GPA – 3.69*.

Publications

- 2019 **TAO: A Large-Scale, Long-Term Benchmark for Tracking Any Object.**
under submission
Achal Dave, Tarasha Khurana, Pavel Tokmakov, Cordelia Schmid, Deva Ramanan
- 2019 **Learning to Track Known and Unknown Objects.**
under submission
Achal Dave, Pavel Tokmakov, Cordelia Schmid, Deva Ramanan
- 2019 **Learning and Evaluating Detectors for Highly Imbalanced Data.**
under submission
Yubo Zhang, Pavel Tokmakov, Cordelia Schmid, Martial Hebert
- 2019 **Learning Compositional Representations for Few-Shot Recognition.**
International Conference on Computer Vision (ICCV)
Pavel Tokmakov, Yu-Xiong Wang, Martial Hebert
- 2019 **Towards Latent Attribute Discovery from Pairwise Similarities.**
International Conference on Computer Vision (ICCV)
Ishan Nigam, Pavel Tokmakov, Deva Ramanan
- 2019 **Towards Segmenting Anything that Moves.**
International Conference on Computer Vision (ICCV), Workshop
Achal Dave, Pavel Tokmakov, Deva Ramanan
- 2019 **A Structured Model For Action Detection.**
Conference on Computer Vision and Pattern Recognition (CVPR)
Yubo Zhang, Pavel Tokmakov, Cordelia Schmid, Martial Hebert
- 2018 **Learning to Segment Moving Objects.**
International Journal of Computer Vision (IJCV)
Pavel Tokmakov, Cordelia Schmid, Karteek Alahari
- 2017 **Learning Video Object Segmentation with Visual Memory (oral).**
International Conference on Computer Vision (ICCV)
Pavel Tokmakov, Karteek Alahari, Cordelia Schmid
- 2017 **Learning Motion Patterns in Videos.**
Conference on Computer Vision and Pattern Recognition (CVPR)
Pavel Tokmakov, Karteek Alahari, Cordelia Schmid
- 2016 **Weakly-Supervised Semantic Segmentation using Motion Cues.**
European Conference on Computer Vision (ECCV)
Pavel Tokmakov, Karteek Alahari, Cordelia Schmid
- 2015 **Relational Linear Programming.**
Artificial Intelligence Journal (AIJ)
Kristian Kersting, Martin Mladenov, Pavel Tokmakov
- 2013 **One Click Mining - Interactive Local Pattern Discovery through Implicit Preference and Performance Learning.**
KDD Workshop on Interactive Data Exploration and Analytics (IDEA)
Mario Boley, Michael Mampaey, Bo Kang, Pavel Tokmakov and Stefan Wrobel

Teaching

- 2018-now **Co-advising students**, *Carnegie Mellon University, USA*.
Co-advising master and PhD students. Directing research, preparing publications.
- 2013-2014 **Student project co-supervision**, *University of Bonn, Germany*.
Co-supervising a master student's semester project in Development and Application of Data Mining and Learning Systems. Suggesting directions of research, providing ongoing advice, reviewing the manuscript.

Service to the community

- 2015-now **Reviewer in journals and conferences**.
TPAMI, IJCV, CVPR, ICCV, ECCV, NIPS, ICML, ICRA.

Organizational activities

- 2018-now **DIVA project**, *Carnegie Mellon University, USA*.
Coordinating the work of CMU team in an IARPA project on spatio-temporal action localization.
- 2015 **PhD Day**, *University of Grenoble, France*.
Taking part in organization of a faculty-wide PhD students event. Defining the program, attracting participants, finding speakers from industry and academia, providing on-site support.
- 2013 **Scientific collaboration between two groups**, *University of Bonn, Germany*.
Visiting KU Leuven to organize collaboration with a group working on a related topic. Giving a talk for the faculty, representing my team in meetings and private discussions.

Professional experience

- 2011-2012 **Senior software engineer**, *Kentor East, Saint Petersburg, Russia*.
Outsource development of Java Enterprise applications for Tele2 mobile operator.
- 2008-2010 **Software engineer**, *Exigen Services, Saint Petersburg, Russia*.
Outsource development of Java Enterprise applications for T-Mobile Germany.

Languages

- English **Fluent**
- German **Upper intermediate**
- French **Intermediate**
- Russian **Mothertongue**