
CURRICULUM VITAE

Dipl. Inform. Jan Hosang

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Citizenship: German

Languages: German (mother tongue), English (fluent), French (basic)

Academic background and work experience

- **Research Assistant and PhD Student**, Max Planck Institute for Informatics, Saarbrücken, Germany (Mar. 2012 – today)
Computer Vision and Multimodal Computing (director: Prof. Dr. Bernt Schiele)
Supervisor: Prof. Dr. Bernt Schiele
Worked on object detection in computer vision, mostly in the context of pedestrian or people detection. In-depth analysis of detection proposals and their evaluation: Which metrics actually correlate with detection performance? Pedestrian detection with neural networks for detection without problem specific models. Learnable non-maximum suppression that overcomes inherent problems of the traditional approach. Weakly supervised instance segmentation. Analyses of the history of pedestrian detection and failure modes of current pedestrian detectors.
Involved: Deep learning (Caffe), Python, C++, Matlab, cluster parallelization (SGE)
- **Software Engineering Intern**, Google, Zürich, Switzerland (Oct. 2011 – Jan. 2012)
Handwriting recognition team (supervisor: Dr. Thomas Deselaers)
Handwriting recognition based on inertial sensors when the phone is used like a pen or laser pointer. Reconstruction of the phones path on paper and on-device recognition of the handwriting.
Involved: Java, C++, build tools, protobuf
- **Diploma of Computer Science**, RWTH Aachen, Germany (Oct. 2005 – Aug. 2011)
Thesis: Towards Large-Scale Categorization Using Min-Hash (Supervisor: Prof. Dr. Bastian Leibe) (Feb. 2011 – Aug. 2011)
Specialization: Computer Vision, Machine Learning, Computer Graphics (Oct. 2010)
Application: Communication Systems, Adv. Coding and Modulation, Digital Speech Processing, Cryptography (Feb. 2010)
Theory: Efficient Algorithms, Compiler Construction, Modeling Concurrent and Probabilistic Systems (Aug. 2009)
- **Student Researcher**, RWTH Aachen, Germany (Nov. 2009 – Jan. 2011)
Mobile Multimedia Processing Group (director: Prof. Dr. Bastian Leibe)
Field of research: Computer Vision
Randomized kD-trees for searching/clustering high dimensional data. Due to the high dimensionality ordinary kD-trees fail to reduce the neighbor candidates. This approximation enables great speed ups for visual vocabulary construction and assignment.
Involved: C, Vectorization, OpenMP
- **Visiting Student**, Imperial College London, United Kingdom (Oct. 2008 – Sept. 2009)
Second term courses: Advanced Computer Architecture, Computer Graphics, Robotics, Bioinformatics (May 2009)
First term courses: Machine Learning, Computer Vision, Simulation and Modelling, Software Engineering (Jan. 2009)
- **Student Researcher**, RWTH Aachen, Germany (Oct. 2006 – Sep. 2008)
Chair for Human Language Technology and Pattern Recognition (director: Prof. Dr.-Ing. Hermann Ney)
- **Abitur**, Ruhrtal-Gymnasium Schwerte, Germany (May 2004)

Computing Skills

- Programming languages
Fluent: Python, C/C++, Matlab, bash/zsh
Good: Cuda C++, Java, Go, HTML
- Parallel computing
Usage and administration of Sun Grid Engine (approx. 3700 CPUs, 66 GPUs)
- Deep learning framework: Caffe, Tensorflow

Selected Publications

Theses

- [1] Jan Hosang. “Towards Large-Scale Categorization Using Min-Hash”. Diploma Thesis. RWTH Aachen University, 2011.

Selected Journal Articles

- [2] Jan Hosang, Rodrigo Benenson, Piotr Dollár, and Bernt Schiele. “What makes for effective detection proposals?” In: *IEEE Trans. on Pattern Analysis and Machine Intelligence (PAMI)* (2015).
- [3] Thomas Deselaers, Daniel Keysers, Jan Hosang, and Henry Rowley. “GyroPen: Gyroscopes for Pen-Input with Mobile Phones”. In: *IEEE Trans. on Human-Machine Systems* (2014).

Selected Conference Papers

- [4] Jan Hosang, Rodrigo Benenson, and Bernt Schiele. “Learning Non-Maximum Suppression”. In: *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*. 2017.
- [5] Anna Khoreva, Rodrigo Benenson, Jan Hosang, Matthias Hein, and Bernt Schiele. “Weakly Supervised Semantic Labelling and Instance Segmentation”. In: *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*. 2017.
- [6] Jan Hosang, Rodrigo Benenson, and Bernt Schiele. “A Convnet for Non-Maximum Suppression”. In: *Proc. of the German Conference on Pattern Recognition (GCPR)*. 2016.
- [7] Shanshan Zhang, Rodrigo Benenson, Mohamed Omran, Jan Hosang, and Bernt Schiele. “How Far are We from Solving Pedestrian Detection?” In: *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*. 2016.
- [8] Jan Hosang, Rodrigo Benenson, Mohamed Omran, and Bernt Schiele. “Taking a deeper look at pedestrians”. In: *Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*. 2015.
- [9] Rodrigo Benenson, Mohamed Omran, Jan Hosang, and Bernt Schiele. “Ten years of pedestrian detection, what have we learned?” In: *European Conf. on Computer Vision (ECCV), CVRSUAD workshop*. 2014.
- [10] Jan Hosang, Rodrigo Benenson, and Bernt Schiele. “How good are detection proposals, really?” In: *Proc. of the British Machine Vision Conf. (BMVC)*. 2014.
- [11] Tobias Weyand, Jan Hosang, and Bastian Leibe. “An Evaluation of Two Automatic Landmark Building Discovery Algorithms for City Reconstruction”. In: *European Conf. on Computer Vision (ECCV), RMLE workshop*. 2010.

Invited Talks & Tutorial Organisation

- Tutorial on Efficient Object Detection in conjunction with ICCV, Santiago, Chile, December 2015.

Community Service

• Peer Reviews for Conferences

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2013, 2014, 2015, 2016
- International Conference on Computer Vision (ICCV) 2013, 2015
- European Conference on Computer Vision (ECCV) 2012, 2014, 2016

- Conference on Neural Information Processing Systems (NIPS) 2016
- German Conference on Pattern Recognition (GCPR) 2015
- Asian Conference on Computer Vision (ACCV) 2014

- **Peer Reviews for Journals**

- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

Awards

- **UCSD Data Mining Contest**, 1st place, 301 teams participated (Jul. 2009)
- **Data Mining Cup**, 3rd place, 618 students from 164 different universities participated (Jun. 2008)
- **Sun Software Award**, 2nd place, 12 teams participated (Dec. 2007)
- **Data Mining Cup**, 5th place, 688 students from 159 different universities participated (Jun. 2007)
- **informatikCup**, 1st place (Mar. 2007)
- **Datastructures and Algorithms**, RWTH, 1st place (Aug. 2006)
- **Jugend Forscht**, Regionalwettbewerb, 1st place (Feb. 2004)