Aljoša Ošep

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RESEARCH INTERESTS

My main research goal is to develop methods for visual perception, capable of continually learning and improving performance in real-world scenarios using raw, unlabeled sensory data.

EDUCATION

RWTH Aachen University, Aachen, Germany

- Ph.D. in Computer Science — Nov 2013 – ongoing
  - Thesis: Vision-based Category Agnostic Object Tracking for Mobile Robots and Intelligent Vehicles
  - Supervisor: Prof. Dr. Bastian Leibe
  - Focus: Computer Vision and Machine Learning

University of Bonn, Bonn, Germany

- M.Sc. in Computer Science — Sep 2010 – Mar 2013
  - Thesis: Multi-View 3D Reconstruction of Highly-Specular Objects
  - Focus: Computer Vision, Robotics, Computer Graphics
  - Final grade: 1.3 (scale: 1.0 - excellent, 4.0 - sufficient)

University of Maribor, Maribor, Slovenia

- B.Sc. in Computer Science — Sep 2007 – Sep 2010
  - Final grade: 9.59 (scale: 10.0 - excellent, 6.0 - sufficient)

RESEARCH EXPERIENCE

RWTH Aachen University

- Graduate Research Student (Ph.D.), Computer Vision Group — Nov 2013 – ongoing
  - Supervisor: Prof. Dr. Bastian Leibe
  - Research: Vision-based multi-object tracking and object discovery
  - Teaching: Machine Learning (WS'13, SS'16), Computer Vision (WS'14)

University of Bonn

- Graduate Research Student, Computer Graphics Group — Apr 2013 – Aug 2013
  - Supervisors: Prof. Dr. Andreas Weber and Prof. Dr. Dominik L. Michels
  - Focus: Physics-based modelling of material deformation
- Undergraduate Research Student, Computer Graphics Group — May 2011 – Mar 2013
  - Supervisors: Prof. Dr. Reinhard Klein and Dr. Michael Weinmann
  - Focus: 3D reconstruction, image-based material retrieval
- Undergraduate Research Student, Autonomous Intelligent Systems Group — Sep 2011 – Apr 2012
  - Supervisors: Prof. Dr. Sven Behnke
  - Focus: Teaching assistant for the Cognitive Robotics course

PUBLICATIONS

A. Ošep* and P. Voigtlaender* and J. Luiten and B. Leibe, "Large-Scale Object Discovery and Detector Adaptation from Unlabeled Video," Arxiv Preprint: arXiv:1712.08832 Dec 2017.

A. Ošep and W. Mehner and P. Voigtlaender and B. Leibe, "Track, then Decide: Category-Agnostic Vision-based Multi-Object Tracking," in *ICRA*, Brisbane, Australia, May 2018.

A. Ošep and W. Mehner and M. Mathias and B. Leibe, "Combined Image- and World-Space Tracking in Traffic Scenes," in *ICRA*, Singapore, Singapore, May 2017.

D. Klostermann and A. Ošep and J. Stueckler and B. Leibe, "Unsupervised Learning of Shape-Motion Patterns for Objects in Urban Street Scenes," in *BMVC*, York, UK, Sep 2016.

D. Kochanov and A. Ošep and J. Stueckler and B. Leibe, "Scene Flow Propagation for Semantic Mapping and Object Discovery in Dynamic Street Scenes," in *IROS*, Daejeon, South Korea, Oct 2016.

A. Ošep and A. Hermans and F. Engelmann and D. Klostermann and B. Leibe, "Multi-Scale Object Candidates for Generic Object Tracking in Street Scenes," in *ICRA*, Stockholm, Sweden, May 2016.

D. Mitzel and J. Diesel, A. Ošep and U. Rafi and B. Leibe, "A Fixed-Dimensional 3D Shape Representation for Matching Partially Observed Objects in Street Scenes," in *ICRA*, Seattle, USA, May 2015.

M. Weinmann and A. Ošep and R. Ruiters and R. Klein, "Multi-View Normal Field Integration for 3D Reconstruction of Mirroring Objects," in *ICCV*, Sydney, Australia, Dec 2013.

M. Weinmann and R. Ruiters and A. Ošep and C. Schwartz and R. Klein, "Fusing Structured Light Consistency and Helmholtz Normals for 3D Reconstruction," in *BMVC*, Surrey, UK, Sep 2012.

HONORS

- National (Slovenian) scholarship for gifted students — Sep 2008 – Mar 2013

LANGUAGES

- Slovenian: Native language.
- English: Fluent (speaking, reading, writing).
- German: Intermediate (reading); basic (speaking, writing).

TECHNICAL SKILLS

- Programming languages: C++, Python, MATLAB, Java
- Tools: OpenCV, Point Cloud Library (PCL), Tensorflow, Caffe Deep learning framework, Robot Operating system (ROS)

HOBBIES

Travelling, Football, Rock Climbing.

REFERENCES

- **Prof. Dr. Bastian Leibe**
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