

Nicolai Häni

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EDUCATION

University of Minnesota Ph.D. Candidate in Computer Science, Advisor: Volkan Isler	Minneapolis, USA 2017 –Present
University of Minnesota Exchange Semester	Minneapolis, USA Mar 2015 –Oct 2015
Zurich University of Applied Sciences Master of Science in Engineering	Zurich, Switzerland 2013 –2015
Zurich University of Applied Sciences Bachelor of Science in System Engineering	Zurich, Switzerland 2009 –2012

PROFESSIONAL EXPERIENCE

Robotic Sensor Network Laboratory Research Assistant <ul style="list-style-type: none">– Research on data efficient neural scene representations– Research on classification and 3D reconstruction for precision agriculture	Minneapolis, USA 2017 –Present
Pix4D Software Engineer <ul style="list-style-type: none">– Responsible for implementation of classification of large scale aerial point clouds– Prototyping of sky classification for Parrot Bebop 2 Drones to improve Structure from Motion feature matching	Lausanne, Switzerland 2016 –2017
Institute of Mechatronic Systems Research Assistant <ul style="list-style-type: none">– Development of intuitive methods for visualization and haptic feedback to steer a robotic catheter during heart surgery– Design of a new calibration method for camera/LIDAR calibration using geometric targets.	Zurich, Switzerland 2012 –2015

AWARDS AND SCHOLARSHIPS

MnDrive PhD Graduate Assistantship Award	2020
ASPRS Talbart Abrams Award For the paper “Classification of aerial photogrammetric 3D point clouds”	2019
University of Minnesota CSE Fellowship	2017
Swiss Society of Advanced Control - Best Master Thesis Award For thesis “Design and Implementation of an Eye-in-Hand Vision System for Orchard Inspection”	2016

PUBLICATIONS

- N. Häni**, S. Engin, J.-J. Chao, and V. Isler, “Continuous object representation networks: Novel view synthesis without target view supervision”, *Advances in Neural Information Processing Systems*, vol. 33, 2020.
- N. Häni**, P. Roy, and V. Isler, “MinneApple: A Benchmark Dataset for Apple Detection and Segmentation”, *IEEE Robotics and Automation Letters*, vol. 5, no. 2, pp. 852–858, Apr. 2020, issn: 2377-3766, 2377-3774.
- N. Häni**, P. Roy, and V. Isler, “A comparative study of fruit detection and counting methods for yield mapping in apple orchards”, in *Journal of Field Robotics*, Aug. 2019, issn: 1556-4959, 1556-4967.

N. Häni, P. Roy, and V. Isler, “Apple Counting using Convolutional Neural Networks”, in *2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Madrid, Spain: IEEE, Oct. 2018, pp. 2559–2565, ISBN: 978-1-5386-8094-0.

C. Becker, **N. Häni**, E. Rosinskaya, E. d’Angelo, and C. Strecha, “Classification of aerial photogrammetric 3D point clouds”, en, *ISPRS Annals of Photogrammetry, Remote Sensing and Spatial Information Sciences*, vol. IV-1/W1, pp. 3–10, May 2017, ISSN: 2194-9050.

A. Devreker *et al.*, “Intuitive Control Strategies for Teleoperation of Active Catheters in Endovascular Surgery”, en, *Journal of Medical Robotics Research*, vol. 01, no. 03, p. 1 640 012, Sep. 2016, ISSN: 2424-905X, 2424-9068.

N. Häni and V. Isler, “Visual servoing in orchard settings”, in *2016 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Daejeon, South Korea: IEEE, Oct. 2016, pp. 2946–2953, ISBN: 978-1-5090-3762-9.

E. Vander Poorten *et al.*, “Cognitive AutonomouS CATHeters Operating in Dynamic Environments”, en, *Journal of Medical Robotics Research*, vol. 01, no. 03, p. 1 640 011, Sep. 2016, ISSN: 2424-905X, 2424-9068.

NON-REFEREED PUBLICATIONS

P. Roy, **N. Häni**, and V. Isler, “Semantics-Aware Image to Image Translation and Domain Transfer”, *arXiv preprint arXiv:1904.02203*, 2019.

PROFESSIONAL SERVICES

- Technical paper reviewer
 - International Conference of Intelligent Robots and Systems (IROS) 2018-2020
 - International Conference on Robotics and Automation (ICRA) 2018-2020
 - Robotics and Automation Letter (RA-L) 2018-2020
 - Computers and Electronics in Agriculture 2019
 - Journal of Field Robotics 2019
- Teaching Assistant
 - CSci 2033 Elementary Computational Linear Algebra, University of Minnesota Spring 2018