Nicolai Häni

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EDUCATION

Ph.D. Computer Science — 2017-
University of Minnesota, Minneapolis, MN, USA
Advisor: Volkan Isler

M.S. Industrial Technologies — 2012-2015
Zurich University of Applied Sciences, Zurich, Switzerland

B.S. System Engineering — 2009-2012
Zurich University of Applied Sciences, Zurich, Switzerland

EXPERIENCE

Robotic Sensor Networks (RSN) Laboratory — University of Minnesota
Advisor: Volkan Isler — 2017-

- Conducted research in RSN lab to create new computer vision and machine learning algorithms used in Precision Agriculture.

Pix4D — Lausanne, Switzerland
Software Engineer — 2015-2017

- Conducted research on machine learning algorithms to classify large scale aerial photogrammetry point clouds

Institute of Mechatronic Systems (IMS) — Winterthur, Switzerland
Advisor: Dejan Seatovic — 2012 - 2015

- Conducted research on computer vision algorithms for steering robotic catheter for cardiovascular surgery.
- Designed a sensor suit for autonomous real time navigation of a rover to be used for precision agriculture applications in field settings.

SELECTED PUBLICATIONS

N. Häni, P. Roy, V. Isler. **A Comparative Study of Fruit Detection and Counting Methods for Yield Mapping in Apple Orchards** *Submitted to: Journal of Field Robotics* 2018

N. Häni, P. Roy, V. Isler. **Apple Counting using Convolutional Neural Networks** *IEEE/RSJ International Conference on Intelligent Robots and Systems* 2018

C. Becker, E. Rosinskaya, N. Häni, E. d'Angelo, C. Strecha. **Classification of Aerial Photogrammetric 3D Point Clouds** *Photogrammetric Engineering and Remote Sensing 84(5):287-295* May 2018

N. Häni, V. Isler. **Visual Servoing in Orchard Settings** *IEEE/RSJ International Conference on Intelligent Robots and Systems* 2016

TEACHING

CSci 2033: Elementary Computational Linear Algebra, UMN — *2018*

AWARDS

Best Poster Award: 11th Biennial Research Showcase, UMN — *2018*
Travel Grant: IROS2018

Quality Metrics Fellowship *2018*
Best Master Thesis Award, Swiss Society of Advanced Control *2016*

Computer Skills

- Programming Languages: Python, C/C++, Assembly, Java, Matlab
- Software & Platforms & Libraries: LaTex, Github, SVN, CUDA, Pytorch, Tensorflow, JSON/AJAX, Eigen, OpenCV