

TIMO STOFFREGEN

Computer Vision PhD

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📍 Melbourne, Australia

🌐 <https://timostoff.github.io>



RESEARCH

Reducing the Sim-to-Real Gap for Event Camera

Timo Stoffregen, Cedric Scheerlinck, Davide Scaramuzza, Tom Drummond, Nick Barnes, Lindsay Kleeman and Robert Mahoney

📅 Aug 2020

📍 ECCV

Event-Based Motion Segmentation by Motion Compensation

Timo Stoffregen, Guillermo Gallego, Tom Drummond, Lindsay Kleeman and Davide Scaramuzza

📅 Nov 2019

📍 ICCV

CED: Color Event Camera Dataset

Cedric Scheerlinck, Henri Rebecq, Timo Stoffregen, Nick Barnes, Robert Mahony, Davide Scaramuzza

📅 Jun 2019

📍 CVPRW

Event Cameras, Contrast Maximization and Reward Functions: an Analysis

Timo Stoffregen and Lindsay Kleeman

📅 Jun 2019

📍 CVPR

Simultaneous Optical Flow and Segmentation (SOFAS)

Timo Stoffregen and Lindsay Kleeman

📅 Dec 2017

📍 ACRA

Equipping Industrial Deep-Sea Manipulators with a Sense of Touch

Peter Kampmann, Timo Stoffregen and Frank Kirchner

📅 Oct 2015

📍 OCEANS MTS/IEEE

WORK AND INTERNSHIPS

Internship

Facebook Reality Labs

📅 Dec 2020 - Jul 2021

📍 Seattle, USA

I am currently working as a research intern at FRL (Facebook Reality Labs). The original internship was extended in order to produce a paper and patent applications based on my work.

Internship

Robotics and Perception Group, ETH Zurich

📅 Jun 2018 - Dec 2018

📍 Switzerland

During six months spent at RPG I produced an ICCV and CVPRW paper as well as other ongoing collaborations.

EDUCATION

PhD Computer Vision

Monash University

📅 Apr 2017 - May 2021 📍 Australia

B.Sc Systems Engineering

University of Bremen

📅 Oct 2011 - Mar 2015 📍 Germany

NZQA L3 w/ Excellence

Golden Bay High School

📅 Dec 2010

📍 New Zealand

SKILLS/EXPERTISE

Event-Based Vision

Deep Learning for Computer Vision

Hardware Acceleration

C++

Python

PyTorch/Tensorflow

CUDA

SolidWorks

CAD Design

LANGUAGES

English



German



Spanish



PERSONAL HOBBIES

Rock Climbing

Hiking

History/Historical Literature

Playing Piano

Flying Model Aircraft

Researcher

Monash University/DSTG Australia

📅 Jun 2016 - Dec 2016

📍 Australia

Working for DSTG Australia I produced a white paper on SoTA in swarm robotics in communications contested environments.

Internship

KUKA Robotics

📅 Mar 2014 - Sep 2014

📍 Germany

At KUKA I developed readout boards for engine-knock sensors for automated engine test-benches, employing both circuit design and Verilog.

Researcher

DFKI (German Research Centre for Artificial Intelligence)

📅 Feb 2012 - Feb 2015

📍 Germany

Working on the LIMES robot parallel to my undergraduate studies, I focused mainly on electronic integration and hardware design.

AWARDS AND SCHOLARSHIPS

Raymond Jarvis Best Paper Award

Best Paper Award

📅 2017

📍 ACRA, Australia

Monash University RTP Stipend

Study Stipend

📅 2017

📍 Australia

NZQA Scholarship Exam

Study Grant

📅 2011

📍 New Zealand

Royal Society Travel Scholarship

ISEC International Science and Engineering Camp

📅 2010

📍 South Korea

Royal Society Travel Scholarship

TUNZA International Children's Conference on the Environment

📅 2004

📍 USA

PROJECTS

For more, see <https://timostoff.github.io/projects>

Event Camera Utility Library

Open Source, Deep Learning

I started and maintain the Event Camera Utility Library, a collection of tools for processing and visualising events on CPU/GPU. Since inception, the library has found widespread use.

WingNet

Hobby Project, Event Based Vision, Deep Learning

I developed and maintain several tools for the School of Biology to automatically annotate/measure *Drosophila Melanogaster* morphology.

DIY 3D Printer, KUKA Robot Arm Renovation, Egg Engraving Machine and more...

Hobby Project, CNC

REFEREES

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BRIEFLY ABOUT ME

I am a highly motivated computer vision researcher, with a broader background in electrical engineering. Since I have been interested in tinkering since childhood, I have strong set of practical skills, which is reflected in my approach to my work.

I was raised in Takaka, a beautiful part of rural New Zealand, but left to study Systems Engineering (essentially a mechatronics course) at the University of Bremen, Germany. After taking a year and a half to travel, I moved to Melbourne, Australia, to start a PhD focusing on event-based vision under the auspices of Lindsay Kleeman and Tom Drummond.

Since then, I have been working hard to make use of these novel visual sensors and to boost our understanding of asynchronous data. While my work has mostly focused on optimization methods on the events, I am currently working on developing principled input representations of the events for use in deep neural networks.