# GURKIRT SINGH

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## EDUCATION & EXPERIENCE

**ETH Zurich, Switzerland** *Feb. 2020 - present*
Postdoctoral Fellow; Supervised by Prof. Luc Van Gool

**Oxford Brookes University, Oxford, UK** *Sep. 2015 - Nov. 2019*
Ph.D in Computing and Maths; Supervised by Prof. Fabio Cuzzolin

**Borealis AI, Vancouver, Canada** *Feb. 2019 - May 2019*
Research Intern; Supervised by Prof. Greg Mori & Prof. Leonid Sigal

**Disney Research, Pittsburgh, USA** *Feb. 2017 - Jul. 2017*
R&D Lab Associate; Supervised by Prof. Leonid Sigal & Dr. Andreas Lehrmann

**Siemens Corporate Research, Banglore, India** *Oct. 2013 - Aug. 2015*
Research Engineer

**INRIA, Grenoble, France** *Feb. 2013 - Sept. 2013*
Research Intern & Engineer; Supervised by Prof. Radu Horaud & Dr. Georgios Evangelidis

**ENSIMAG, INP Grenoble, France** *Sep. 2012 - Jun. 2013*
MSc at ENSIMAG; Supervised by Prof. Radu Horaud & Dr. Georgios Evangelidis

**University of Edinburgh, Edinburgh, UK** *Jan. 2010 - May 2010*
Research Intern; Supervised by Prof. Dr. Bob Fisher

**VIT University, Vellore, India** *Aug. 2006 - May 2010*
B.Tech; Supervised by Prof. Dr. Bob Fisher & Dr. Arulmozhivarman Pachiyappan

## RESEARCH INTERESTS

**Computer Vision**     Causal Representation Learning, Video Feature Learning,
Spatiotemporal Action Detection, Future Action Prediction

## SELECTED PUBLICATIONS

**Recurrent Convolutions for Causal 3D CNNs**
**Gurkirt Singh** and Fabio Cuzzolin
*Workshop on Large Scale Holistic Video Understanding, ICCVW, 2019*

**An End-to-End Baseline for Video Captioning**
Silvio Olivastri, **Gurkirt Singh** and Fabio Cuzzolin
*Workshop on Large Scale Holistic Video Understanding, ICCVW, 2019*

**Action Detection from a Robot-Car Perspective**
**Gurkirt Singh**\*, Stephen Akrigg\*, Valentina Fontana\*, Manuele Di Maio, Suman Saha, Fabio Cuzzolin
*Preprint arXiv: 1807.11332, 2018*

**TraMNet - Transition Matrix Network for Efficient Action Tube Proposals**
**Gurkirt Singh**, Suman Saha and Fabio Cuzzolin
*Asian Conference on Computer Vision (ACCV), 2018*

**Incremental Tube Construction for Human Action Detection**
Harkirat Behl, Michael Sapienza **Gurkirt Singh**, Suman Saha, Fabio Cuzzolin and Philip Torr
*British Machine Vision Conference (BMVC), 2018*

**Predicting Action Tubes**
**Gurkirt Singh**, Suman Saha and Fabio Cuzzolin
*Workshop on Anticipating Human Behavior, ECCVW, 2018*

**Online Real-time Multiple Spatiotemporal Action Localisation and Prediction**
**Gurkirt Singh**, Suman Saha, Michael Sapienza, Philip Torr and Fabio Cuzzolin
*International Conference on Computer Vision (ICCV), 2017*

**AMTnet: Action-Micro-Tube Regression by end-to-end Trainable Deep Architecture**

Suman Saha, **Gurkirt Singh** and Fabio Cuzzolin
*International Conference on Computer Vision (ICCV), 2017*

**Deep Learning for Detecting Multiple Space-Time Action Tubes in Videos**
Suman Saha, **Gurkirt Singh**, Michael Sapienza, Philip Torr and Fabio Cuzzolin
*British Machine Vision Conference (BMVC), 2016*

**Untrimmed Video Classification for Activity Detection: Submission to ActivityNet Challenge**
**Gurkirt Singh** and Fabio Cuzzolin,
*ActivityNet Challenge Workshop, CVPRW, 2016*

**Skeletal Quads: Human action recognition using joint quadruples**
Georgios Evangelidis, **Gurkirt Singh**, Radu Horaud
*International Conference on Pattern Recognition Vision (ICPR), 2014*

**Continuous Gesture Recognition from Articulated Poses**
Georgios Evangelidis, **Gurkirt Singh**, Radu Horaud
*Workshop on Looking at People (Chalearn), ECCV 2014*

## AWARDS & CHALLENGES

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|---|---|
| **Doctoral Consortium**: Selected for Doctoral Consortium Award ICCV-2019 | 2019 |
| **Best Reviewer**: Selected as the best reviewer for ICCV-2019 | 2019 |
| **PhD Scholarship**: 150th Anniversary PhD Scholarship, Oxford Brookes University | 2015 |
| **Charades-Challenge 2017**: Acton Recognition and Segmentation tasks (Rank: 2/10 and 3/6) | 2017 |
| **ActivityNet-Challenge 2017**: Classification tasks (Rank 3/29) | 2017 |
| **ActivityNet-Challenge 2016**: Classification and Detection tasks (Rank 10/24 and 2/6) | 2016 |
| **Chalearn-Challenge 2014**: Looking at People Challenge (Gesture Detection Task Rank 7/17) | 2014 |

## SKILLS

**Programming**: Python, Matlab, C/C++, Lua

**Deep Learning Platforms**: PyTorch, Torch, Caffe, TensorFlow

**Libraries**: Numpy, Scipy, Scikit-Learn, OpenCV, Eigen, Kinect SDK

**Operating Systems**: Linux, macOS, Windows

## TEACHING EXPERIENCE

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| **Machine Learning**: Teaching Assistant (Postgraduate) | 2018 |
| **Computer Vision and Machine Learning**: Guest lecturer (Postgraduate) | 2016, 2017, 2018 |
| **Understanding Programming**: Lab Assistant (Undergraduate) | 2015, 2016 |

## REVIEWER

Best reviewer award ICCV 2019
TPAMI 2017, 2018, ICCV 2019, CVPR 2018, BMVC 2019, and IJCIA 2017, 2018, 2019

## MORE INFORMATION

**Google Scholar**: `https://scholar.google.com/citations?user=w8XHUMIAAAAJ&hl=en`

**Homepage**: `https://people.ee.ethz.ch/~gusingh/`

**Github**: `https://github.com/gurkirt`