

# GURKIRT SINGH

gurkirt.singh-2015@brookes.ac.uk  $\diamond$  <http://gurkirt.github.io/>

## EDUCATION & EXPERIENCE

---

<b>Borealis AI, Canada</b> Research Intern Supervised by Greg Mori & Leonid Sigal	<i>Feb. 2019 - May 2019</i>
<b>Disney Research, USA</b> R&D Lab Associate (Research Intern) Supervised by Leonid Sigal & Andreas Lehrmann	<i>Feb. 2017 - Jul. 2017</i>
<b>Oxford Brookes University, UK</b> Ph.D in Computing and Maths Supervised by Fabio Cuzzolin	<i>Sep. 2015 - Nov. 2019</i>
<b>Siemens Corporate Research, India</b> Research Engineer	<i>Oct. 2013 - Aug. 2015</i>
<b>Institut Polytechnique de Grenoble, France</b> Master of Science in Informatics at ENSIMAG Supervised by Radu Horaud & Georgios Evangelidis	<i>Sep. 2012 - Jun. 2013</i>
<b>University of Edinburgh, UK</b> Research Intern Supervised by Bob Fisher	<i>Jan. 2010 - May 2010</i>
<b>VIT University, Vellore, India</b> B.Tech. in Electronics and Instrumentation Engineering Supervised by Bob Fisher & Arulmozhivarman Pachiyappan	<i>Aug. 2006 - May 2010</i>

## RESEARCH INTERESTS

---

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

## PUBLICATIONS & MANUSCRIPTS

---

- Recurrence to the Rescue: Towards Causal Spatiotemporal Representations**  
Gurkirt Singh and Fabio Cuzzolin  
*Preprint arXiv: 1811.07157, 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*
- 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*
- Skeletal Quads: Human action recognition using joint quadruples**  
Georgios Evangelidis, Gurkirt Singh, Radu Horaud  
*International Conference on Pattern Recognition Vision (ICPR), 2014*

## **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

*Anticipating Human Behavior (ECCV Workshop), 2018*

## **Untrimmed Video Classification for Activity Detection: Submission to ActivityNet Challenge**

**Gurkirt Singh** and Fabio Cuzzolin,

*ActivityNet challenge (CVPR workshop) 2016*

## **Continuous Gesture Recognition from Articulated Poses**

Georgios Evangelidis, **Gurkirt Singh**, Radu Horaud

*Chalearn Looking at People (ECCV workshop), 2014*

## **CONTESTS & CHALLENGES**

---

<b>Charades-2017:</b> Acton Recognition and Segmentation tasks (Rank: 2/10 and 3/6)	2017
<b>ActivityNet-2017:</b> Classification tasks (Rank 3/29)	2017
<b>ActivityNet-2016:</b> Classification and Detection tasks (Rank 10/24 and 2/6)	2016
<b>Chalearn 2014:</b> Looking at People Challenge (Gesture Detection Task Rank 7/17)	2014

## **SKILLS**

---

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

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

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

**Operating Systems:** Linux and Windows

## **TEACHING EXPERIENCE**

---

<b>Machine Learning:</b> Teaching Assistant (Postgraduate)	2018
<b>Computer Vision and Machine Learning:</b> Guest lecturer (Postgraduate)	2016, 2017, 2018
<b>Understanding Programming:</b> Lab Assistant (Undergraduate)	2015, 2016

## **REVIEWER**

---

TPAMI 2018, ICCV 2019, CVPR 2018, BMVC 2019, IJCAI 2017, 2018, 2019

## **LANGUAGES**

---

Punjabi (Maternal), Hindi (Fluent), English (Fluent), French (Elementary)

## **MORE INFORMATION**

---

**Google Scholar:** <https://scholar.google.com/citations?user=w8XHUMIAAAAJhl=en>

**Homepage:** <http://gurkirt.github.io/>

**Github:** <https://github.com/gurkirt>

**LinkedIn:** <https://www.linkedin.com/in/gurkirt/>